

The Mining Journal

RAILWAY AND COMMERCIAL GAZETTE.

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

No. 848.—VOL. XXI.]

London, Saturday, November 22, 1851.

[PRICE 6D.

VALUABLE MINE MATERIALS FOR SALE.

MR. PRYOR will SELL BY AUCTION, at the TYWARTH-HAYLE MINES, in the Parish of St. Agnes, on Monday, the 24th instant, at Ten o'clock in the forenoon, the following

SPARE MATERIALS.

10 9-foot 17-inch pumps.	1 6-foot 15-inch door-pieces
20 ditto 16-inch ditto.	1 8-foot 15-inch window-panes
1 ditto 15-inch ditto.	10-inch H and top door-pieces
1 ditto 14-inch ditto.	9-foot 13-inch window-panes
10 ditto 13-inch ditto.	10-foot 11-inch working barrel
1 6 feet 12-inch ditto.	6 feet 11-inch window-panes
7 9-foot 11-inch ditto.	10-foot 10-inch working barrel
3 ditto 10-inch ditto.	9-foot 10-inch window-panes
5 Matching pumps, various sizes.	6-feet 8-inch door-pieces
1 15-inch H and top door piece.	8-inch stuffing-box and gland
1 18-inch pump-pole with stuffing-box and gland.	6-foot 7-inch door-pieces
1 15-inch plunger-pole with stuffing-box and gland.	7-pair flagged rod plates, 20-feet long by 8 inches wide.
2 5-foot 13-inch door-pieces.	Several lots of 9-inch whale-chain.

The Auctioneer begs to call the attention of Mine Agents and others to the above Materials, the same being almost new, and will be peremptorily sold.

Any further information may be obtained of the Agents of the Mine, or at the Auctioneer's offices, Town Hall, Redruth.—Dated November 12, 1851.

CARMARTHENSHIRE.

TO BE IMMEDIATELY SOLD, THREE SMALL FARMS, in the upper division of the parish of BETTWYS, and upon the alignment of the Llanelli Railroad, and containing about 112 acres of land, together with

FOUR VEINS OF VALUABLE ANTHRACITE COALS, one of them about 6 feet thick; also with ONE VEIN OF IRON ORE, called the BLACK-BAND, about 13 inches thick, with several OTHER STRATA of the COMMON IRON-STONE of the country.

And also to BE LET, in the same parish, for a long term of years, several VEINS of ANTHRACITE COALS, and TWO VEINS of the IRON ORE called the BLACK-BAND, of one of them being about 15 or 16 in. thick, with several other VEINS of the COMMON IRON-STONE of the country, on the MAESYNGARNE ESTATE, containing about 300 acres of land, also being on the alignment of the Llanelli Railroad.

For further particulars apply at the office of Mr. Evan Hopkins, No. 13, Austinfriars, London.

* Only principals need apply.

TO CAPITALISTS.—TO BE DISPOSED OF, from HALF

to TWO-THIRDS PART of a SILVER-LEAD MINE, adjoining a mine now making large returns. Nearly £2000 has been spent on the mine, and large returns have been made: a small outlay only will be required to bring this mine into a paying state. A small portion of the amount of the purchase will be required in cash, and the remainder will be taken in shares, free of cost, in the mine, or in any approved mines, with paid-up capitals, or dividend-paying ones.—Communications, addressed to "A. B." Post-office, St. Columb, Cornwall, will meet with prompt attention.

TO CAPITALISTS, &c.—TO BE DISPOSED OF, THIRTY

TWO (64ths) or FORTY-EIGHT (64ths) of the INTEREST of two Persons in a LEAD MINE, who hold the whole, in the county of WICKLOW, IRELAND. Capital only is required to make it a profitable and valuable mine, as it is proved to certain that a valuable lode of lead ore runs through the land, from a mine that has paid large and profitable returns for many years.—Terms and particulars may be known by applying to "J. F." care of Thomas Lucas, Esq., Stone, Staffordshire; or "A. B." care of Messrs. Batchelor Brothers, 59, Dawson-street, Dublin.

TO ENGINEERS, IRONFOUNDERS, &c., TO BE DISPOSED OF, BY PRIVATE CONTRACT, the STOCK, GOODWILL, and TRADE of the EAGLE FOUNDRY, SHEFFIELD.

The premises and fixtures are taken upon lease, six years of which are unexpired, at an annual rental of £220, with option of purchasing at a fixed price.

The premises contain an area of 3500 square yards, or thereabouts, and comprise TWO CUPOLAS, MOULDING SHOP, with cranes, 45 x 24 feet; ditto 22 x 18 feet; STEEL FURNACE, containing six holes, capable of melting from 2 to 3 tons of steel per week, or might be converted into a brass foundry; a steel house, coke shell, rubbing shop, fitting shop, boring mill, 45 x 21 feet; including fixtures, a large LATHE, capable of turning or boring anything on the face plate, 16 feet diameter, and in the centre 3 ft. 9 inches diameter, and 30 feet long; a SCREW-CUTTING LATHE, for cutting screws up to 16 feet, with change wheels, upright drilling machine and engine, engine-house, with an 8-horse power engine and fans, fitting shop, 45 x 21 feet; model shop, 36 x 15 feet; blacksmith's shop, 27 x 12 feet, containing two fires; erecting shop, 30 x 34 feet; four shops, each 27 x 12 feet, used at present as model-makers' and stove grate fitting shop, four hearths, offices, two cottages, stables, and other conveniences.

The STOCK TO BE DISPOSED OF comprises MOULDING SHOP, 52 x 30 feet erected by the present tenants; pig-iron, metal boxes, models, including about 200 wheel-patterns, three lathes, vices, boring-rods, and other tools pertaining to the boring-mill; blacksmiths' and other tools, furnace stock, wood, horses, carts, dray, office fittings, &c. The above offers a good opportunity to parties desirous of commencing in the above line, the business having been established upwards of 40 years, and the connection first-rate. The books may be inspected, and the prices obtained for castings shown.

The stock will not exceed £2500, and contains only the plant and tools necessary for carrying on the business. The number of hands employed is generally about 50, but capital and enterprise alone are necessary to extend the business. A portion of the purchase-money might remain on good security.

For further particulars apply to Messrs. Thomas Wilson and Co., on the premises; Mr. Liddell, Sheffield Union Banking Company; or to Messrs. Lucas and Cutts, solicitors, Chesterfield.

TO BE LET.—MINING SETTS ON RICH MINERAL LODES, producing LEAD, COPPER, &c. (lately opened by the proprietor, H. Richardson, Esq.), situated on the ABER-HIRNANT ESTATE, near BALAMERIONETH, NORTH WALES.—For particulars address H. Richardson, Esq., Aber-Hirnant, Bala, North Wales.

REPORT OF CAPTAIN JAMES RULE, of LLANGEROG.

Having been informed there were several lead and copper lodes of great promise in Aber-Hirnant Estate, in the county of Merioneth, I recently (by request) inspected some part of them, and found that five different ones had been partially opened on driving a few fathoms—two of which show every indication of being productive; but, from the limited workings of them so near the surface, it is impossible to state their quality; and I am sorry to say, at present these are all abandoned, not for want of strong and good indications as to mineral qualities, but (from the information I gained) the want of spirit and enterprising capitalists—but I have no doubt this will some day be a large mining district. On the same lands, about three miles from Aber-Hirnant, about north-west, my attention was particularly directed to a place called Maesallan, where I found two men driving east, only a few feet under cover, on a lode composed of lead, quartz, blende, and copper, with two well-defined walls, the lode from 3 to 4 feet wide, underlaying south 2 feet in a fathom—one of the most promising I ever saw in the locality. There is an abundant supply of water at all seasons of the year, and the levels can be brought under the mountain from 80 to 100 fathoms deep, without the aid of any machinery.

These lands are the property of H. Richardson, Esq., and would be let to any enterprise on liberal and advantageous terms. The property abounds with timber calculated for mining purposes, which would be available at a low rate. I would recommend parties before embarking to inspect, or cause the lodes to be inspected by an experienced man.

PONTGYSYLLE FORGE, NEAR RUABON, DENBIGHSHIRE.

TO BE LET (with immediate possession), all that valuable IRON-WORK, called

THE PONTGYSYLLE FORGE, with its powerful STEAM-ENGINE, shingling, and drawing-out hammers, bolting, saw, and boiler-plate rolls, heating and ball furnaces, iron shears and lathes, manager's house, offices, warehouse, smiths, and carpenters' shops, and pattern rooms—all of which have lately been put in the most complete repair.

The work compactly roofed in—surrounded by a very extensive yard, enclosed by a high stone wall, and possessing every convenience and requisite for a weekly make of 70 tons of merchant bar and of boiler-plate.

The Pontgyssylle Forge is admirably situated on the margin of the Ellesmere and Chester Canal—being separated only by the towing path—and possessing near and convenient communications, by means of railways, leading from the premises to the heart of the Ruabon collieries, to the Shrewsbury and Chester RAILWAY, at their Llangollen-road and Cefn stations, and by the canal to every part of the kingdom.

A more desirable opportunity than the present for the profitable employment or investment of capital is rarely offered to the public—coals being cheap and abundant, wages and pig-iron low, and rent of premises moderate.

For further particulars apply to Mr. S. Waterhouse, Derby-square, Liverpool; or Mr. Edward Jones, surveyor, Plasias, Ruabon, who will show the premises.

HENDREFORGAN COLLIERY, GLAMORGANSHIRE.

TO BE LET, for a term of years, all the valuable and well-known SEAMS OF

ANTHRACITE COAL, IRONSTONE, and BLACK-BAND, under the HENDREFORGAN FARM, in the parish of LLANGUICKE, in the county of GLAMORGAN, which com-

prises ONE HUNDRED ACRES of LAND, and is situated within two miles of the Swansea Canal, to which there is communication by rail road, and within twelve miles of the port of Swansea.

The property contains the Little Vein, 3 feet thick, celebrated for the manufacturing of anthracite iron; the Big Vein, 3 feet thick; the Welford Vein, 3 feet thick; and the Three Coal Vein, 2 feet thick—all of which have been proved; and also all the SEAMS or HANDS of IRONSTONE, BLACK-BAND (17 inches thick), on the north crop of the basin, some of which have been lately worked by the proprietor, and are now in a state for immediate operations. The coal is well-known in the London and other markets as Cox's Stone Coal.

Further particulars to be had of Mr. M. G. Steward, mining engineer, Bedminster, Bristol; of the proprietor, Mr. Evan Jones, on the property; or at the office of Mr. Alex. Gatherton, solicitor, Neath.

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Original Correspondence.

THE MAN-MACHINE AT FOWEY CONSOLS.

Sir.—I consider, for the benefit of the mining community, it should be known that the man-engine working in this mine answers every expectation, and improvement in the health of the miner is already visible. There is no doubt but that the lord, adventures, and miners will all reap the benefit, and the lives of the latter prolonged for years. The nobility and gentry, and foreigners also, have inspected the machine, and several have tested its safe and easy ascent and descent by going to the bottom, where the machine works a depth of about 1700 ft. from surface perpendicularly. Lord Vivian, Capt. Vivian, and Nicholas Kendall, Esq., accompanied by Capt. Puckey, who, with Mr. West, was one of the projectors, very recently descended the whole depth of the machine, and from thence into the interior of the mine, 20 fms. deeper than the machine can be applied; and on their return to the level of the machine, they partook of some cold brandy-and-water, the latter of which is conveyed through pipes to that level, with taps at some of the levels above, suitable for the miners' convenience and refreshment, which is considered an additional comfort.

Mr. Kendall often goes down into the mines, and takes a lively interest, not only as one of the lords, but in the welfare of the miners generally, and is very often known to reward the miner who has made any sort of discovery, as well in any other lord's land as in his own.

Lord Vivian and Capt. Vivian did not forget to be generous towards the miners. They left something handsome with Capt. Puckey for the men, and expressed themselves highly pleased with the machine, and gratified with what they had seen, taking with them some specimens of yellow copper ore, which they broke 1800 ft. below surface.

Capt. Puckey, on announcing to the miners, on Saturday last, when they were assembled before the counting-house for the setting, that he had a present left by Lord Vivian and his brother for them, and asked them how they would like to have it, the reply was, with one voice, and full 500 present—Give it to the distressed families who have suffered so much from their children having the scarlet fever, &c. This is certainly a praiseworthy act, and an example highly creditable.—J. PUCKEY: *Fowey Consols Mine, Nov 17.*

THE COST-BOOK.

Sir.—The novel proceeding of a Californian Mining Company being advertised as conducted upon the Cost-book Principle, has again raised the threaddbare question of what is the "cost-book?" and whilst many contend that such mines only as are under the jurisdiction of the Stannary Laws can be conducted on its principles, others pretend to look upon it as a mystery, altogether incomprehensible. Among the latter I believe may be numbered the Committee of the Stock Exchange.

Having repeatedly explained through the medium of your columns what, among mining men, is generally considered the legitimate "cost-book," it is not my intention now to enter into any lengthened description; but I beg to be allowed to state, as my firm conviction, that mining companies can be conducted upon the principle of the cost-book, *wherever that principle can be carried out*. Originally, I take it, the cost-book was framed for and was peculiar to the mines in Cornwall under the jurisdiction of the Stannary Laws; but even in Cornwall the system has been much extended, and when the Joint-Stock Registration Act was framed, representations being made of the injurious effects its provisions would have upon the outlay of capital in the mining districts, a clause was inserted, exempting from its operations "all partnerships or companies formed for the working of mines, minerals, and quarries of what nature soever, on the principle commonly called the Cost-book Principle." I have carefully gone through the Joint-Stock Act, and nowhere is mention made of the Stannary Laws or of the cost-book being confined to Cornwall. It is clearly stated that all companies are exempt, when conducted on the "principle" of the cost-book.

Now therefore, it is necessary to inquire, what is the grand and fundamental "principle" of the cost-book? It is, I contend, a mutual partnership, where the partners manage their own affairs, each individual being responsible for the whole debts of the partnership, but no partner (or servant) having power to pledge the credit of his co-partners without their consent. The names of the partners, or as they are more commonly called "adventurers," are registered in a cost-book, where the accounts of expenditure (which should be paid every month) are also entered, and the adventurers meet once in two months (or quarterly in tin mines) to investigate their affairs, audit the accounts of their agents, vote funds, &c. A code of rules and regulations is generally adopted for the management of minor matters, and which form a part of the grand "principle" of the cost-book.

It now becomes the question, can a company working a mine in California, the shareholders being resident in England, be carried out upon the Cost-book Principle? I think not; and simply because it would be impossible that the shareholders could have the control of their affairs, or regulate the expenditure of their servants; and, therefore, the principle of the cost-book, exempted from the operations of the Joint-Stock Act, would be violated, and shareholders would be individually liable for, perhaps, an extravagant expenditure, quite beyond their superintendence or control.—ARGUS: *London, Nov. 18.*

THE JOINT-STOCK ACT.

Sir.—Among the speculations which have been introduced into the market within the last month is one which claims peculiar notice, without reference to its intrinsic merits, but chiefly on the ground that its promoters have, by an evasion of the law, introduced a new element into our commercial code. A mining company, called the *Nouveau Monde*, has been formed in Paris, under the French law of *commandite*, which limits the liability of shareholders to the amount of their actual subscriptions, and leaves the manager alone responsible for the management of minor matters, and which form a part of the grand "principle" of the cost-book.

CAUSIDICUS.

THE TIN-DRESSING MACHINE.

Sir.—When I wrote the letter on which you commented in your Journal of the 8th instant, in which I accepted the challenge sent me by Mr. Matthews, I thought the matter would have been brought to an issue ere this, and that any further controversy would have been unnecessary; but the wild romance of Mr. Matthews, dated the 12th instant, induces me to trespass on your valuable space once more.

Immediately after the late Polytechnic Exhibition, I sent a letter, dated October 13th, to our provincial papers, in which I charged him with "imposition," because he had copied from a model I had made, and had sent his at Falmouth as an invention of his own, by which means he had obtained a prize. In the same letter I stated most distinctly that "the usual expensive and complicated modes of tin dressing induced me to turn my attention to the subject, with a view, if possible, to save labour and economise expense in that department; and after trying some few experiments for my own satisfaction, I had, in the year 1848, a model made according to my own direction, and should have carried this plan into effect (not any previous one) but for circumstances over which I had no control. That I had tried experiments was, therefore, clearly stated, and that those experiments to me were quite satisfactory, which led to the making the model in question. How comes it to pass, then, that after publishing those facts to the world, I should, on the first day of this month, have become so ignorant as Mr. Matthews represented me in his rigmarole letter? That I did see him on the day in question is a fact, when he evidently wanted to compromise matters; but on finding me firm, and that I had determined on having it thoroughly investigated, he was so very liberal as to express himself thus—"If after I lay a sketch, or drawing, of the experiment you tried at your lower stamps at Hewas before the secretary and judges of the Polytechnic Society (for I can do it), and they say that that is like mine, I will hand you over the prize?" Now, Sir, to fix upon a thing which he tells you was a failure, and which he states I acknowledged to be unlike his model, does it not appear exceedingly liberal? I did give him credit for the correctness of his copy; and here I must compliment him for his low cunning. Allow me, therefore, to call your attention to an important fact, which he avoids telling you—that is, that I employed his brother for some considerable time; that every experiment was tried immediately under his brother's eye; that his brother cut the very wood with which my model was made; and that every facility was afforded this boasting genius for knowing how it was constructed. All this he keeps from the public, and makes "an ingenious appeal" to public sympathy, pretending to be quite ignorant of my invention, and offers "to meet me" within 16 miles of Redruth, and if my model is any thing like his he will—

Why, fight a bit, and run away.

And try his pen another day!

As to Mr. Newton's letter, his remarks had reference to the washing down the machine after the tin was cleaned; and here Mr. Matthews happened to make a trifling omission, perhaps from oversight, and had recourse to that of Mr. Brenton, whose rotative machines are in operation in that district. This,

however, is apart from the dressing process, which is exactly like that of mine. I shall, therefore, as soon as an opportunity offers itself, either send my mode to the secretary of the Polytechnic Society, or wait on the judges, to whom I never have imputed ignorance or "ineptitude of judgment."

Prince Albert Mine, Nov. 18.

JOHN DAVIES.

THE RHOSWYDOL AND BACHEIDDON LEAD MINE.

Sir.—You, last week, noticed the fortunate development of this mine, and advised the parties to "follow in depth," as the best means of ascertaining "quantity and quality." This advice, though good in general application, appears, from what I have learnt, to be wholly unnecessary in the case of the Montgomeryshire Mine, which may be better called a quarry than a mine, for the lodes are, I am informed, in masses, like strata of rocks, and have been already laid open for more than 200 yards in length, at a depth of only a few feet from the surface. "Quarry diggings" would be the phrase best applicable to the works now carrying on, for six excavations have already been opened on the masses of lead ore which pervade the sett, and both quantity and quality increase with the extension of these surface pits. So far as I can presume to judge from what I have heard, the whole of the rising ground in the moor appears to be a solid mass of lead, or rather masses, broken only by cracks after formation, not by any intercepting or co-operative strata. From such cause, and from the result of the investigations already made by the persevering and spirited Captain Davies, there cannot remain a doubt as to the immense riches of the mine; and though not one of the original shareholders myself, I do most gladly congratulate the first adventurers, who have abided by their undertaking, on the full realisation of their very warmest anticipations. I happen to know that they are chiefly indebted to the sound judgment and fine spirit of the shareholder who, on many occasions, inspected the ground personally, and who persevered through evil and good report, encouraging confidence by his assurance of ultimate success, and by firmly holding his shares to the last, a policy from which he will now reap the benefit, as I understand he is the proprietor of no less than 500 of the 2500 shares, or nearly one third of the whole property.

Here is an instance of the advantage of perseverance when ground has been opened bearing a really encouraging aspect. The workings of the Rhoswydol, for several years past, have produced lead, and supplies were, from time to time, sent to the market, but never in paying quantities. Many of the shareholders wavered, and others absolutely parted with their shares for a few shillings only a few months ago, and they are now in demand at from 20/- to 25/-, with few sellers even at prices still higher, as the immense quantity of lead already laid open will insure large returns for years to come.

In conclusion, allow me to add that the want of straightforwardness and steadfastness in mining pursuits is the great cause of loss and disorder in such undertakings. It may be safely said that successful mining is more the result of unswearied diligence and perseverance, guided by knowledge and experience, and honourable conduct, than by a reckless or lavish outlay of money. The large capitals sunk in mining enterprises may, in a great degree, be laid to the account of miscalculating ignorance, presumptuous pretension, or scandalous imposition. The *Mining Journal* has often sounded the warning against such pretenders, and will, I trust, continue to raise its voice against the delusions practised in mining affairs. They are crying evils, and have done more to damage the cause of mining enterprise than any losses incurred by honest endeavours. At least one-half the outlay in mining schemes may truly be laid to the account of such practised delusions; for it can be satisfactorily shown that legitimate mining enterprise at home, not abroad, is on the average by far the most profitable of any mode of applying capital known to the present generation, and it will, doubtless, continue so; for, in spite of all imposture and imposition, I fully agree with Mr. Murchison, and others among your able correspondents, that "legitimate mining is becoming more and more a safer and more certain speculation, and the capitalist feels greater inducement to embark in it." It is also "becoming daily better understood, and more deserving of the encouragement of the capitalist public." The lectures now in the course of delivery at "the Government School of Mines" in Pencadilly, will go far to strengthen confidence, and to encourage enterprise in home mining.—G.: *London, November 19.*

WHEAL EDWARD.

Sir.—In your Journal of last week, among the Mining Notabilia, I noticed a paragraph highly commendatory of Wheal Edward as a speculation, and of its having passed over to the Wheal Zion party, under whose management high hopes are entertained of its becoming a profitable concern. Wheal Edward, as a speculation, is not to be surpassed; but if managed no better than its near neighbour, it will (as Zion) prove failure.

Your correspondent, "Argus," of Truro, in remarking on Wheal Zion, in his letter last week, states that by assay of the ores, by the copper smelting companies, they will not produce 5 per cent. Report says that the ores will not produce 24 per cent, and that their best parcel will not fetch more than 18s. per ton. These are the ores which the purser, at a meeting of adventurers, held on the mine in August last, stated would fetch 18/- per ton, and that they had at surface 35 tons of ore of that quality; it is now the middle of November, and only 51 tons raised. A long period raising 16 tons from such a course of ore as was then described to be!

The worthy manager also stated that Wheal Arthur's deep adit would drain Wheal Zion from all water, and that two cross-courses traversed the Wheal Zion, which would take in water as fast as a man could conveniently dip it into them with a bucket. Then why not avail themselves of those privileges? There are the ores which the purser, at a meeting of adventurers, held on the mine in August last, stated would fetch 18/- per ton, and that they had at surface 35 tons of ore of that quality; it is now the middle of November, and only 51 tons raised. A long period raising 16 tons from such a course of ore as was then described to be!

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It is quite unnecessary, one would suppose, to expend a sum of money in purchasing an engine when those privileges could be made available. "We shall see," as "Argus," of Truro, quaintly observes.

A LOOKER-ON

Tavistock, Nov. 17.

BRYNTAIL MINE—MANAGEMENT.

Sir.—Observing a letter in your Journal, signed "A Shareholder," reflecting on the management of this mine, and otherwise trying to draw inferences totally at variance with the truth and facts, I beg to state that I am always ready to give, on application, any and every information to those shareholders who cannot call at the office; but I must beg to decline answering anonymous correspondence.—JOHN H. SMITH: *Cornhill, Nov. 21.*

TRENAULT LIME QUARRY.

Sir.—Immediately on perusal of the libellous letter which appeared in the last Number of the *Mining Journal*, on the subject of the Trenault Lime Quarry, signed "Samuel Hockaday," I wrote to Mr. Richard Dingley, of Launceston, whose name was freely used therein, declaratory of my disbelief of his having expressed himself as represented by that writer, and requesting explanation of the matter. By return of post, Mr. Dingley replied, and said:—"I never authorised any individual to use my name, and consider it an unwarrantable liberty. The expressions quoted are not mine." This from a gentleman of Mr. Dingley's known position is sufficient answer to the whole of the letter; and I shall not, therefore, take further notice of it. I forward you Mr. Dingley's letter, that there may be no error in transcription.—W. W. MANSELL: *London, Nov. 19.*

Sir.—In the last number of your valuable Journal, Samuel Hockaday was good enough to favour the public with his opinion of the Trenault Lime Quarry, which he says "will entirely fail as a paying undertaking." Now, Sir, will you grant me the same indulgence, and permit me, through your medium, to express my opinion. It is diametrically opposed to that of Samuel Hockaday. I assert that the Trenault Lime Quarry is a very valuable property, and that it will be productive of great benefit to those interested in it. From the time of my birth until now, which is not a short period, I have resided in the immediate vicinity of Trenault; I know everybody for 10 miles round; my business brings me into constant intercourse with the landowners and farmers, and having made it part of my occupation for the last 12 years to inspect quarries and mines, I consider myself almost as competent to give an opinion, and to know that of others, as Samuel Hockaday, who has been filling the office of a policeman in the metropolitan force during the same period; and, therefore, with all due deference, hesitate not to say that all who are not interested in guano attach much importance to Trenault Lime Quarry; that they look forward anxiously for the more extensive development of the works, that the requirements for lime as manure, the only manure applicable to this soil, may be supplied from this source. Samuel Hockaday, besides, never worked in a quarry, nor in a copper, lead, or tin mine; he was merely a manganese dresser when he left his native country, for very good reasons, no doubt, about 10 or 11 years ago, and entered the metropolitan police. I scarcely believe that Samuel Hockaday was ever in the quarry—at all events, not for 12 or 15 years. However, as I will not presume to place my isolated opinion in opposition to that of so important a personage as Samuel Hockaday, for opinions occasionally differ, I corroborate my humble views by the evidence of 30 persons residing in the neighbourhood, and whose position places them beyond suspicion. I will furnish hundreds, if necessary; but there was not time to obtain more.

Samuel Hockaday states that Mr. Richard Dingley, the worthy and respectable banker at Launceston, lost money at Trenault; but he omits to mention in what manner. This omission I will furnish. About 20 years ago, Mr. Dingley was one of four who took the quarry, and worked it for a short time with inefficient machinery, and drew up the limestone by horse-power—I believe they had two horses. The parties, moreover, not being well versed in dialing, spent the greater portion of their money in driving an adit which was utterly useless for the purposes of the quarry; and if Samuel Hockaday and the "gentleman from London" had favoured me with their company to the quarry, which I urged, not only would I have pointed out how the failure occurred, but have shown them that now there is a powerful water-wheel and all machinery necessary for working the quarry in a business-like manner, and in accordance with the most approved method of the age, very different, indeed, to what it was in Mr. Dingley's time. But, after all, if Mr. Dingley and party did lose some money, what does it prove, as Vince, the mathematician, said after plodding through *Paradise Lost*, or does it militate against the capabilities and importance of Trenault? Fortunes are frequently made on the spot where fortunes have been lost. The outlay of only a small sum may of itself have been the cause of failure. Another small amount might have produced the desired result. But, be this as it may, if no better evidence can be adduced against Trenault, the shareholders need not doubt the result.

Besides, Mr. Dingley's partners continued to work the quarry after the retirement

of that gentleman, until the death of Mr. Menhinnick, about three years since, and with profit to themselves, even with their crude mode of carrying on operations.

I do not hesitate to express my doubt that Mr. Dingley spoke to a stranger, or expressed himself at all, in the manner stated by Samuel Hockaday. He would neither be so unjust nor indiscreet; and, therefore, I shall not further notice this portion of the letter. The "gentleman from London" was an utter stranger both to Mr. Dingley and the county. I did all I could to induce him to inspect the quarry; and why he would not, although within so short a distance, was unaccountable to me, especially as the weather was no obstacle; neither did he express to me a wish to see any person acquainted or connected with Trenault.

Whatever assertions I made when in London, in reference either to Trenault, North Trelawny, East Trelawny, or Wheal Trewyn, I am quite prepared to prove, by the testimony of the most competent judges in the county, as well as of practical working miners and quarrymen. Some of the latter have worked at Trenault for 20 years. South Petherwin, Nov. 19.

JOHN BENNETT.

Sir.—Trenault Lime Quarry is situated in the midst of an agricultural district, where there is a constant and increasing demand for lime. The farmers in this neighbourhood, like all other persons fond of novelty, for some time made less use of lime than in former years, as the wonderful properties of guano had been so much extolled; and as the facilities of getting lime had not been good, there being no kiln burning within a less distance than from 12 to 20 miles, and as one wagon-load of guano is supposed to manure twenty acres, allowing 2 cwt. per acre, whereas it would take 100 loads of lime, at 50 bushels to an acre, so that this was an inducement to use less lime and more guano. Though guano may do as a stimulant, and succeed in getting a green crop, there is no substance for the after crops; so that when the farmer comes to cut his barley, oats, &c., he finds there has been the shadow, but that the substance is wanting. Many, indeed most, of the guano manurers have long since said—We must stop using so much guano, or else guano will stop us from farming. The Trenault Lime Quarry is, therefore, no speculation. The material exists in abundance. It has been worked for the last half-century, but only on a very limited scale, and with inefficient appliances. There seems to be no end to it, and the best limestone is left in the bottom of the old workings. The lime, moreover, is in constant demand; and as to its properties as a manure, I will obtain the testimony of the farmers of the locality, who were in the habit of using it when it could be obtained. The extent it may be worked depends, of course, on the strength of machinery and labour employed. The person who recently worked the quarries sold all he burnt, and could have sold any quantity, if he had worked more energetically in raising it. I have seen Thos. Parnell, who was once captain of the quarry, and brother of one of the proprietors. He has promised to give a special report, which will explain fully Mr. Dingley's case.

Trenault, Nov. 19.

HENRY HOOPER.

TRENAULT.—We, the undersigned, landowners, farmers, and others, residing in the vicinity of Trenault, beg hereby to certify that we consider the lime of Trenault as very good, and that we look for a more extensive burning of lime at Trenault, that we may be supplied with it for manuring our lands and farms. We consider lime the best manure for our soil; and there is no other lime nearer than Lifton, which is eight miles distant from the nearest of us, and that we shall be able to draw two or three loads from Trenault, while we should be getting one from Lifton, of which itself would be a great saving both in time and expense.—Signed the 18th and 19th Nov., 1851.

Samuel Lane, Congdon—John Philip Willis—William Pearce, West Petherton—David B. Vosper, Landloke—Nicholas Lobb, Tregillis—Arthur Peter, Bolam—Richard Congdon and Sandercock, Honiton—George Wise, William Weale, James Roberts, William Bant, James Lane, Trethevy—Thomas Gilbard, William Gilbard, and William Harvey, of South Petherwin—William Tink and Thomas Gillard, of Pollexen—Joseph Wain, of Drannick Town—Geddie Pearce, of Trevoseper—Henry Gowman, Treven—William Keast, Piper's Pool—William Ham, Francis Prior and Thomas Parnell, of Treven—John Brown, of Trethevy—John Nicols of Trevidock—T. Buller, John Medland, and Thomas Sandercock, of Trenault.

ACCIDENTS IN COAL MINES.

Sir.—It is with the deepest concern that I look over the list of accidents weekly recorded in your Journal, and particularly those occurring in coal mines. Having examined many of these mines, and finding a number of able, intelligent men connected with them, I thought none could be more competent as to the means to be used as a preventive than those who have, through life, had their daily practice amidst such machinery and inflammable gases. I considered it folly for me, or others, who are mere theorists in coal mines, to attempt to dictate as to the means that should be used to effect the desired object.

When the subject was taken up by Government, I felt satisfied that effective laws would be laid down, and such men selected to carry them out as were known to be acquainted with the best mode of working, and the nature of each district. But I am sorry to say that there appears to be a shadow of improvement as yet; the number of lives lost appears to be immense. Whether this arises from the selection of men not suiting each particular district, or from an

MEERBROOK SOUGH COMPANY.

A report by the manager (Mr. Joseph Taylor), on the present position of these lead mines, situate in Derbyshire, with full statement of accounts, has recently been printed and circulated among the shareholders, from which it appears that the total receipts on capital account from the commencement to the 29th Sept., 1851, were—Calls, 14,800*l.*; sundries, 118*l.* 6*s.*—14,918*l.* 6*s.* 3*d.*—By labour cost, 915*l.* 1*s.*; contracts, 845*l.* 4*s.* 3*d.*; rope, 133*l.* 8*s.* 7*d.*; candles and tallow, 41*l.* 10*s.* 9*d.*; iron and tin pipes, 830*l.* 0*s.* 3*d.*; carriage and drawing, 275*l.* 1*s.* 1*d.*; woodwork, 545*l.* 1*s.* 6*d.*; mason's and brickwork, 117*l.* 18*s.* 8*d.*; stationery and printing, 68*l.* 3*s.* 4*d.*; agency and parliamentary expenses, 285*l.* 1*s.* 1*d.*; coal, oil, and tending engine, 533*l.* 15*s.* 4*d.*; land for engine-houses, 87*l.*; sundries, 324*l.* 4*s.* 1*d.*: leaving balance on capital in favour of shareholders, 209*l.* 12*s.* 8*d.* On the statement of revenue account to the same date there appears—Ore sold, 6376*l.* 7*s.* 9*d.*; interest and registering shares, 20*l.* 1*s.* 6*d.*—6397*l.* 3*s.* 3*d.*—By B. Buckley, composition agent, 61*l.* 8*s.* 8*d.*; Barnmaster, on composition ore, 46*l.* 4*s.* 9*d.*; rates, 147*l.* 2*s.*; mining expenses, 204*l.* 18*s.* 10*d.*; sundries, 22*l.* 9*s.* 1*d.*; dividends, 5253*l.* 5*s.* 1*d.*: leaving balance on revenue, 661*l.* 18*s.* 3*d.*—making a total balance in favour of the mine, 871*l.* 10*s.* 1*d.* The report stated that the water which had impeded the working was falling slowly, but it was feared, if much rain occurred, they would have to be partially suspended. The manager recommended what he considered a less expensive method of working the mines than the present—when the Sough intersects the whole of the north and south veins to drive waggon gates from the Sough at its level, which would not only relieve the veins from water, but all the east and west veins would be cut through, and by rising to the old workings would secure perfect ventilation. The ores and minerals from the several mines might be drawn at the Sough shaft, and landed at surface by the engine at much less cost than drawing by horses at several shafts. There would also be an ample supply of water for dressing, and more men might be employed, with greater advantages to the shareholders.

WEST WHEAL JEWEL MINING ASSOCIATION.

At a special general meeting of shareholders, held at the offices of the company, Old Broad-street, on Monday, the 17th inst.,

JAMES HENRICKS, Esq., in the chair.

Mr. NICHOLSON (the secretary) read the notice convening the meeting from the *Mining Journal*, it having been called for the purpose of rescinding the resolution passed at the meeting held on the 3d June last, and to propose, in lieu thereof, to raise the capital required upon the existing shares.

The CHAIRMAN stated that the committee of management and several of the largest shareholders had transmitted their proxies, but as the number of shares that had not signified their assent or dissent to a call of 10*s.* would, in all probability, exceed 1000, the board would prefer not being placed in the position of having so large a number to forfeit, and as it would be unfair to those who had already contributed so largely to the support of the mine to adventure for those who at the eleventh hour abandoned it, the board and committee were of opinion that the most prudent step would be to dissolve the company. A new one might be formed by those willing to contribute the necessary funds required to purchase the concern and carry forward the operations contemplated in the northern part of the sett, together with such portion of the south as might be deemed advisable; when as every proprietor of the 3715 shares constituting the present company would be entitled to his like proportion in the new concern, they might individually retain the same interest as before; while those not wishing to do so would receive their proportion of any balance in hand that might remain after the sale of the effects and discharge of the present liabilities.

Many observations followed, *pro et con.*

A SHAREHOLDER inquired whether the directors had taken steps to ascertain the probable value of the engines, materials, and effects?

The CHAIRMAN replied that they had; and they thought they would realise about 1350*l.* to 1500*l.*

Mr. NICHOLSON read a letter from the committee, concurring in opinion with the directors—that there appeared to be no alternative but to dissolve the company, and commence *de novo*. The engines and effects by sale might realise from 1200*l.* to 1300*l.* but if sold in one lot as working materials they were worth at least 1500*l.* and would fetch that sum.

Mr. BAWDEN (a director) observed that they were losing about 100*l.* per month at the south mine; they had resolved, therefore, to make the returns meet the cost by reducing the number of tuteworkmen and increasing the tributors, rather than work the concern further into debt, and know not where the funds were to come from to liquidate the amount.

Mr. MACKAY inquired whether or not the late Mr. Collan Harvey had, six or seven years ago, expressed a very high opinion of the north ground?

Mr. BIRDSEY knew he had, and that by sinking on the lode from week to week no one could say how soon a rich discovery might not be made; and if the present party were now to wholly abandon the concern, there were many others on the look out quite ready to take it.

Mr. BAWDEN confirmed this, knowing it to be so. He, for one, would say dissolve the present company, and form one anew: they had six years good standing in the lease, and had applied for a renewal for 21 years within the last six months.

Mr. MACKAY inquired as to the present financial position of the company?

The CHAIRMAN stated 916*l.* as owing to the merchants, and about 80*l.* to the lords for dues; against which was the value of the materials on the mine.

Mr. J. Y. WATSON suggested that the new company should be strictly upon the Cost-book System, the present deed and regulations ceasing.

Mr. MACKAY moved the first resolution (which will be found in our advertising columns), seconded by Mr. J. Y. WATSON, and carried unanimously.

Mr. WILSON moved the second, which was likewise unanimously carried, and the meeting terminated.

WEST CALLINGTON MINING COMPANY.

The first general meeting of shareholders in this company was held at Gregory's Hotel, Cheapside, on Wednesday, the 19th inst.,

STEPHEN BROAD, Esq., in the chair.

The CHAIRMAN commenced by reading the notice convening the meeting, as advertised in the *Mining Journal*, after which he requested Mr. Gregory to read the prospectus upon which the company had been founded.

Mr. MANUEL (the secretary) then read the minutes of the committee meeting, and the financial statement, as follows:—Amount received on shares sold, 2845*l.*; shares unsold, 2155*l.*—5000*l.*—Paid for the mine and machinery, 270*l.*; August cost, 5*s.* 6*d.*; Sept. 2*s.* 1*d.*; Oct., 14*l.* 8*s.* 8*d.*: leaving balance in favour of the company, 1792*l.* 1*s.* 1*d.*

Mr. MOLYNUX said he had recently paid a visit of inspection to the mine, and had himself explored the lower regions thereof; he could, therefore, speak most confidently as to what he there saw. He had broken some ore out of the lode in the adit level, and finding it very ponderous he thought proper to have it assayed, and the result exceeded his most sanguine expectations. The assay ticket was upon the table, and so was the remainder part of the sample, the former showing 16*z* for lead, and 56 ozs. of silver in the ton. With such a produce in a shallow level, what might be expected below? But if there the quality was even equally as good, there was a mine of wealth for all present and their progeny after them. He was accompanied down by Capt. Hoskin, formerly of Gwennap, who had been an agent of the concern, in the last working, for a period of five years, and he would give them a practical man's opinion of the valuable property they were engaged in, confirming the report of Mr. Arthur Dean.

Capt. HOSKIN said he had been a resident in the district 25 years, and therefore knew the locality well, the mines adjoining, and the strata the lodes were embedded in. He considered the prospects on the two counter lodes, Nos. 6 and 7, very great, and by sinking the shaft in the old mine from 3 to 4 fathoms deeper, No. 2 east and west lode would be met with. He should then propose sinking upon its course, its underlie being about 2 ft. in a fm. north, thereby proving it every fathom it goes deeper. A winze had been sunk east of the wheel pit, in a good lode, having two perfect and well-defined walls, with lead in it. He believed that it would prove to be a first-rate mine, and might be wrought judiciously at a very moderate expense.

Mr. MANUEL (the secretary) had visited the mine about a fortnight ago. He was accompanied by Messrs. Gregory and Vivian, and was perfectly satisfied with all he saw and heard; in fact, it seemed to be the general opinion upon the spot that, on cutting No. 2 lode in the shaft, they would have a good and productive mine.

Mr. GREGORY was quite of opinion with the preceding speaker, that the concern would turn up a prize, and at an early period. He was much pleased, also, at all he saw and heard while upon the mine. Every miner there seemed buoyant with hope and expectations that great profits would be realised, and that three months would bring the concern into a productive state of working.

Dr. SERGEANT (of Callington) said that all Capt. Hoskin had stated might be relied on as correct; he could confirm it in every respect. The new mine had been sunk 25 fms. At last, Alderman Farncomb, who held a very large interest, determined to pay no more calls, or expend any further sum in the prosecution of the mine. This led other gentlemen in London to follow his example; the consequence was, the mine ceased working. By driving on the course of the counter lodes, the five other east and west lodes would be intersected, and when beyond the cross-course he doubted not they would be found highly productive and remunerative. The water was in fork to bottom, and they had sunk one shaft down 4 fms. The old mine was formerly worked by a Mr. Smith, about 30 years ago, by means only of an old water-wheel. Wheal Langford copper lodes must run through the sett, it being due east.

A SHAREHOLDER stated that during the last few months he had several very fine specimens of lead ore submitted to him by parties interested in this mine, and had marked a great contrast in the crystallization and component parts thereof when compared with specimens of lead from other quarters, and conceiving a highly favourable opinion, he was induced to become a shareholder. He considered the prospects generally very cheering, and likely to lead to a profitable result at no very distant day.

Mr. LYNN stated that he accompanied Mr. Molyneux to the mine, and had also been underground there, breaking some of the ore down from the lode, which proved to be of excellent quality. At surface, the buildings were of substantial character, the engine a very superior piece of machinery, fully calculated to carry down the operations to a considerable depth.

Mr. MOLYNUX proposed, and Mr. DARE seconded the motion, that the balance sheet produced be received and adopted, which, with every subsequent resolution, was carried unanimously.

Mr. DARE proposed, and Mr. LYNN seconded, that the report now read be received and confirmed.

Mr. M'LEAN expressed himself highly pleased with the prospects as stated by Dr. Sergeant, Capt. Hoskin, and others; he had thereby been induced to take 100 shares,

and he had no doubt there were several others present who would subscribe for the greater portion of the 2155 shares unappropriated.

Names were then given for more than half of them, Capt. Hoskin, who held five, taking the same number now.

Mr. DARE (a director) said that the object was to pursue with vigour the various lodges in depth; the engine was adapted for the purpose, and no time would be lost in sinking, so as to arrive at a profitable issue.

The CHAIRMAN stated that he had paid the mine several visits: while there some months ago, Captain Knott told him that No. 2 lode was a very valuable and promising one, and would be proved so at another level deeper.

Mr. GREGORY proposed that Mr. M'Lean be added to the committee, which was seconded by Mr. DARE, and carried unanimously. He then read the rules and regulations of the company, which were unanimously adopted by the shareholders present. The Rev. Mr. France and Mr. Lynch were added to the committee, and the three gentlemen acting as such originally were re-elected *en bloc*.

Mr. GREGORY, as the junior member of such committee, returned thanks on behalf of himself and colleagues. He felt sensible that their past conduct had given satisfaction; their exertions were crowned by the approval of the shareholders, whose mark of confidence in re electing them testified that the steps they had taken for the company's welfare were commendable.

Mr. DARE proposed that Mr. Manuel be continued the secretary of the company, at the salary of 1*s.* per week, to include the use of office, &c.

Mr. MANUEL assured them he would most strenuously endeavour to fulfil the duties, and, he trusted, to their entire satisfaction.

The business being concluded, Mr. DARE proposed a vote of thanks to the worthy chairman, who on this, as on every other occasion, deserved their special thanks. This was carried by acclamation.

The CHAIRMAN was at a loss for words to express the gratification that he felt at his humble endeavours being so well received by so large an assembly of gentlemen. In his opinion, they were on the high road to prosperity through West Callington Mine, and he would continue to strive, whilst honourably supported, to bring that concern to second to few in the county. The meeting then terminated.

BORINGDON PARK MINING COMPANY.

We are indebted to a correspondent at Plymouth for the following account of the proceedings at the setting the engine to work at this mine.

About twelve months ago a company was formed in London for working a lead mine in the Boringdon Park property, a lease having been obtained from Lord Morley. The operations were commenced by extending an old adit east on the course of the lead lode, the result of which was the discovery of rich silver-lead ore, although only 10 fms. from surface. Ten tons of this ore have been sold at an average of upwards of 20*l.* per ton, and several tons more are now ready for market on the floors, the whole of which has been raised from only the depth above referred to. From the valuable discovery thus made, and as the ore evidently went down in larger quantities in the bottom of the adit level, it was at once determined to erect a steam-engine, and sink the shaft to deeper levels, where the ore may be expected in greater abundance.

On Saturday, the 1st inst., the steam-engine (a 40-inch cylinder) was set to work, and on the following Thursday the mine was visited by a party of the principal shareholders, who were much satisfied with the prospects of the mine, and the working of the steam-engine. The shaft is now down about 10 fms. from the adit, and in a few weeks the lode will be cut 5 fms. deeper, or 25 fms. from surface; this is expected to lay open very productive and profitable ground. Operations have also been commenced on the lode further east, and the shaft down 20 fms., where good lead is being raised.

In the evening a large party sat down to an excellent dinner at the Globe Hotel, the chair being filled by J. H. MURCHISON, Esq., and the vice-chair by GEORGE PRIDHAM, Esq., agent for Lord Morley. His lordship not being at Salttram, was unavoidably absent; but there were present Capt. Capel Coape (from London), J. H. Hitchins, Esq., Mr. Thomas Nicholls (from Tavistock), Mr. W. Rendle (of Plymouth), &c., &c. After the health of the Queen had been drunk, the CHAIRMAN proposed "Success to Boringdon and East Boringdon Mines." He said,—"You will readily believe that I am naturally anxious for the realisation of this toast, holding as I do with my friends a very large interest in both these mines. I, for my part, have experienced considerable gratification, not only in participating in one of these occasions of a miner's hospitality, nor only in mixing in one of these associations of convivial society, but, more than that, in having the opportunity of witnessing the practical use of one of the greatest triumphs of human invention—an invention, moreover, which has proved most invaluable to the mining interest, and, indeed, to which it is almost entirely indebted for its progress. Gentlemen, when we reflect on the wonderful mechanical power we have seen in operation to-day—when we compare it with the rude and primitive modes in use for draining mines scarcely one hundred years ago—when we consider the water-whim, the rag and chain-pump, and the hand and force-pump—we are astonished, not so much that we are able to accomplish so much, but that our ancestors found the result of their labourious and expensive operations sufficiently remunerative to induce them to carry them on. (Hear, hear.) Each 100 fms. may be attributed to Newcomen's engine, in use from 1710 to 1778, the largest cylinder during that time being 72-inch single, the average power about 3,000,000 lbs., and the greatest depth 90 fms.—Watt's engine, in use from 1778 to 1812, the largest cylinder being 63-in. double, the average power about 3,000,000 lbs., and the greatest depth 200 fms.—and Watt's engine using high-pressure steam expansively, since 1812 to the present time, the largest cylinder being about 90-inch single, and the greatest depth upwards of 300 fathoms. It is not, therefore, to be wondered at that the science of practical mining is comparatively modern. The geologist—the purely scientific geologist—can give the most detailed and comprehensive information of the structure of rocks. His knowledge is most profound; but as regards practical mining it is to a great extent superficial, and we must, therefore, endeavour to get the working miner to apply himself with the same degree of reflection to the extensive field of investigation into which his daily occupation leads him. I shall do all my humble efforts will allow me to secure so desirable an end, and thus render mining investments, in which I am largely interested, more safe and valuable, as well as promote the welfare of the working miner. (Cheers.) Gentlemen, I give you "Success to Boringdon Park and East Boringdon Mines;"—which was responded to most heartily.

The next toast was that of Lord Morley, the proprietor of the land on which the mine is situated. Mr. Pridham acknowledged the toast, and expressed the great satisfaction his lordship felt at the operations carried on, and the great interest he took in the progress of the mine. On behalf of Lord Morley, he intimated that every facility would be granted to the adventurers, and any fair and reasonable alteration in the lease that might be asked for would meet with ready attention. He concluded by passing a high opinion on the merits and qualifications of Capt. Godden, the agent at the mine. He considered the present position of the mines was mainly attributable to him, in conjunction with Mr. Hitchins, and he congratulated the adventurers on having so very intelligent and zealous a manager.

[We may mention that Capt. Godden is only recovering from a severe and serious illness, during which Lord Morley and his amiable countess have shown him the greatest kindness and attention.]

The healths of Mr. Hitchins, the chairman, the adventurers, the strangers, &c., were severally drunk, and responded to, and after a merry evening the party broke up at a late hour.

CREEVELEA COAL, COKE, AND PEAT CHARCOAL IRON COMPANY.

—The natural advantages possessed by this property is great. The richness of the ore, abundance of coal and peat, cheapness of labour, constant supply of water for all purposes, which the River Shannon affords, render steam-power unnecessary, and nothing is required to bring it into a most profitable state but capital. It is now proposed to divide it into 30,000 shares, of 1*s.* each paid up; to conduct it strictly under the Cost-book System, and the shareholders will be subject to no further liability. This sum of 30,000*l.* is deemed by the most competent authorities to be ample in the extreme. The trustees are gentlemen of the highest respectability—two out of five being the lessors; these five have the power to add to their number. So much having been written in its favour by Sir R. Kane, in his *Industrial Resources of Ireland*, and more recently in the highly-favourable and independent report of Mr. Wm. Bedlington, which will be found in the *Mining Journal* of the 18th Sept. last, it is unnecessary to make further comment. The facts plainly speak for themselves; and at a time like the present, when money is extremely abundant, and such a large amount of English capital flowing towards the imaginary regions of gold in every foreign clime, it will be treating our sister isle with undue neglect not to contribute so small a sum for so large an object, promising employment to an almost starving population, willing to labour, but at a loss where to find it, owing to the indifference shown towards them by non-resident landlords, and a want of that natural spirit of adventure that has ever attended them. It is steady employment these poor sufferers want; and this would be accomplished by carrying out the object of the above undertaking.

MINING IN THE HIGH PEAK.—The operations of lead mining in this district which from a very remote period have been extensively carried on, affording employment for a large number of the population, have, from various causes operating to prevent their successful continuance, been on the decline for some years; and although many of the mines are well known to abound in ore of excellent quality, as, for instance, the Brightside, Red Rake, and other mines in Hassop and Calver Liberty, where, from the peculiarity of the strata, it rendered a thorough practical knowledge of mining indispensable to a profitable result, but for want of which acquirements these mines have well nigh been abandoned; their abundant resources, however, it is gratifying to learn, are from the persevering efforts of the present proprietor, to whom the Earl of Newburgh, with his usual liberality, is affording every facility, in a fair way of being again fully developed. The first contract of the Newburgh Level in the Red Rake Mine was let a few days ago, the ceremony of commencing which, in addition to a steam-engine at the Brightside, was performed in the presence of a large number of miners by Mr. Broomhead, of Calver Sough, whose unceasing endeavours in promoting the effectual working of these and other mines are beyond all praise; and now, from the judicious selection of Mr. R. Bentley for manager, give promise of a most favourable result.—*Derbyshire Reporter.*

NOTICE OF THE SULPHATE OF BARYTES FOUND AT WHEAL MARY ANN, IN MENHENIOT.

BY W. J. HENWOOD, F.R.S., F.G.S.

[Read by Mr. W. M. Tweedy at the meeting of the Royal Institution of Cornwall.]

The rocks of the neighbourhood consist of thick lamellar dark blue clay-slate, traversed by an extensive bed of greenstone (here locally called elvan), which bears about east and west, and isolated masses of the same stone are embedded in the clay-slate in many parts of the mine. Wheal Trebene, and Wheal Mary Ann are all worked on one lode, which traverses these rock formations, and is productive in

Mining Correspondence.

BRITISH MINES.

ALFRED CONSOLS.—Field's engine-shaft is sunk 7 ft. below the 90 fm. level just as reported last. The lode in the 90 fm. east is 3 ft. wide, worth for copper ore from 50*l.* to 60*l.* per fm.; it never looked better at any level over this at this point. We have just commenced sinking No. 1. winze under the 40 fm. level; it is 2 to 3 ft. wide, worth for copper ore from 20*l.* to 24*l.* per fm. The 90 fm. level is 1 fm. east of this winze. In driving south in the 80 fm. level we have intersected a branch of copper ore, about 6 ft. wide, which will produce 1 ton per fm., worth 3*l.*; this branch is 6 ft. south of the one cut before, and from appearance will intersect as we drive west from 2 to 3 fms.; these two branches may be valued as worth 30*l.* per fm. The lode in No. 4 winze, sinking under the 70 fm. level, is worth 30*l.* per fm. Wyld's shaft is sunk 2*l* fms. under the 80 fm. level. There is no change to notice in the lode in the 60 fm. level, west of the engine-shaft. Our tribute department looks well.

ALLT-Y-CRIB.—The western slope from the engine-shaft, in the bottom of the mine, is in a very good course of ore, worth 30*l.* per fm., but the slope is not yet high enough to commence a level. There is a fair course of ore in the bottom of the mine eastward. There is also some ore in the end east of the winze, west of the engine-shaft, under the adit, yielding 1 ton of ore per fm. The dressing is getting on well, and the whin in the adit is nearly ready to work, which will enable more ore to be raised than is now doing by hand tackle, and at a less cost.

APPLEDORE.—I intend to put some men to drive east to cut the eastern lode, that we may, if possible, have to report on both the lodes at the meeting. I can assure you that I have every confidence in this mine, for if the ground we have in the bottom of the shaft, and also in driving, does not carry lead, it is useless to take any notice of indications; but in this I am encouraged, as I have never yet seen it fall. Every time I go there I am more pleased. A very little time now will prove this, and by my seeing lead in the 20 fm. level, that will be enough for me.

BARGALLY.—Since my last report we have made a little better progress in driving; the adit level continues to improve. I hope to reach the shaft shortly.

BAT HOLES.—The cross cut driving towards the Wood lode, in the 60 fm. level, is now in 7 fms.—ground moderate for driving. The Wood lode in the 40 fm. level, driving north, is 3 ft. wide, opening good tribute ground. The winze sinking below this level is in hard ground, the lode producing good stones of ore. The tribute department, both in the California and Wood lodes, is looking as well as we have seen it for some time past, and holds out promise for a good sampling for November. We sampled on Friday last October ores, which weighed 5*l.* tons.

BEACON.—Since I last wrote you, we have cleared into the end of old men's workings in the deep adit level, where we find two large lodes (one of them supposed to be the Cockle lode); they are looking very promising to make tin. We have turned on these lodes, to see what part is best to proceed on. We are also nearly down with the shaft, where we intend to drive after Telliarn's lode. They have cut a rich course of tin in Great Bryn Consols, whose lode, I have no doubt, runs through our set.

BEDFORD UNITED.—There is no alteration in the 115 fm. east of engine-shaft. We are driving by the side of the lode in the 115 fm. level, west of Andrew's winze. The lode in the 103 fm. level east is 3 ft. wide, and worth 3 tons of ore per fm. In Lintern's winze, sinking in this level, the lode will produce 4 tons of ore per fm. The lode in Riddle's winze, in the 90, is 3 ft. wide, and yielding 4 tons of ore per fm. There has been no lode taken down in the 90 east. The lode in the rise in the 80 east is 3 ft. wide, and will produce 5 tons of ore per fathom. In the 47 fm. level west the lode is yielding good stones of ore.

BISHOPSTONE (SILVER-LEAD).—I am glad to inform you that the end in the 20 fm. level, driving south, is looking extremely well, with fine stones of lead in it. We have not yet cut the lode in the cross-cut west in this level, but must be very near it. The east cross-cut is much the same as last report; the ground in the limestone continues easy to drive.

BLACK CRAIG.—Our mine is going on very favourably. The 40 fm. level, driving east, is much improved; the west end is without alteration. The stope below the 25 fm. level are producing fully as much as when last reported, and the backs above about the average quantity. We shipped a cargo of 45 tons on the 18th, and expect to ship another cargo in a day or two.

BODMIN WHEAL MARY CONSOLS.—The engine-shaft appears to be entering the capes and branches of a lode. The strata at present has a dip northward. Driving west on No. 6, in the 30, the lode is 2 feet wide, with good ore in places. The cross-cut south in the 30 is in an extremely hard bar of ground, a sort of greenstone, having a dip south. The pitches are as last reported.

BRYN ARIAN.—The engine-shaft is now down to the 30 fm. level, and the men have commenced cutting the plat for driving towards the lode. The 20 fm. level, west of the engine-shaft, is still disordered, and rather poor; the slope in the back of this level, west of Hughes's winze, will yield 1 ton of ore per fm.; a slope in the back of the same level, west of the shaft, will produce from 8 to 10 cwt. of ore per fm. The lode in Hallett's engine-shaft is 5 ft. wide, yielding from 10 to 12 cwt. of ore per fm. The 20 fm. level, driving north of this shaft, is in a lode 4 ft. wide, but of little value at present; the rise in the back of this level, north of shaft, will produce 12 cwt. per fm.

BUTTERDON.—The engine-shaft is sunk 6*l* fms. below the 40 fm. level. In the end south the lode is 4 ft. wide, composed principally of prian, with a little lead: 8 fms. before the end we are sinking a winze in the bottom of the 60, where the lode will produce 6 to 7 cwt. of lead per fm. The 40 north still shows a promising lode, but not much lead. We have sunk a winze 8 fms. north of the end in the bottom of the 30, which has produced some fair work, but a poor in the present bottom. It appears, from all we can see, that the lode is subject to branches. Our engine is working satisfactorily.

BWLCH CONSOLS.—The 45 and 55 fm. levels continue to open out rich bodies of ore in driving westward.

CALLINGTON.—At the north mine, the lode in the 135 fm. level, north and south of the diagonal shaft, is 14 inches wide, composed of soft spar, white iron, and stones of lead, with the latter disseminated in spots throughout the lode, saving work. The lode in the 125 north is 12 in. wide, producing stones of lead, and opening tribute ground that will set at 8*l.* in 17, when ventilated and laid open; the lode in the south end in this level is 10 in. wide, producing 3 cwt. of ore per fm. At the south mine, the lode in the 125 north, driving towards the counting-house shaft, is 14 in. wide, producing 4 cwt. of lead per fm., and we hope it will improve as we near it; the lode in the south end in this level is 15 in. wide, composed of quartz, prian, flookan, and stones of lead, saving work—improving as we approach the shaft. The lode in the 112 south has not been taken down; since last reported, on the wall of which looks kindly, and we have no doubt it will prove productive when removed. The stope in the eastern end of the rise at Kelly-Bray, will produce 3 tons of copper ore per fm.; this place is fairly wrought from the back of the 70 fm. level, and is within 8 feet of a much more productive lode; with respect to the rise over this level (the 70) and the shaft, we are doing our best to effect a communication, and hope, from the sound, to accomplish it within a week, after which greater facility will be afforded for carrying out the operations in this part of the mine; and we may also add, that since this lode has been intersected in West Kite-hill, and presents such favourable features, we have put two men to cotean midway to cut the same, which will be a guide to our future operations, and if found so kindly, it will act as a stimulus to push on with all our might to lay open the same, which in the end, it is our belief, will well repay for the outlay.

CAROLINE AND FANNY CONSOLS (SILVER-LEAD AND COPPER).—We have now secured the breakage and cleared the south adit, on the east lode, upwards of 50 fms.; I find the lode worked away, in many places, both in the back and bottom of the level, to a great extent, and from appearances large quantities of ore must have been raised. On examining the lode left, I consider it will set on tribute from 10s. to 12s. It will be in the course of a week clear the north adit level, so as to command the middle lode, from which the neighbouring mine is throwing up such rich work for silver-lead, so that we may be able to set tribute pitches on this lode also.

CASTLE DINAS.—The shaft is now holed to the adit; water came in, which was let down by putting in a long borer to the adit; this was a hindrance, and prevented reaching the adit so soon as was expected. The open level is now completed, and the wheel-pit being formed. As the price demanded by the masons for building the counting-house, &c., was so unreasonably high, it is, therefore, determined to build a temporary house, which will answer the end this winter, and leave the permanent building until the spring. Capt. Ivey is gone up to-day to prepare for putting up the wheel, laying out stamps floor, &c. The stone of the found on the hill in cutting the foundation for the counting-house is pronounced by an experienced tin-dresser to be three-quarters black tin. In bringing down the water-course a large stone of tin was discovered; it was evidently from a lode near at hand; its produce was very high, but I had not the means of precisely ascertaining the per centage.

CERN CAM SLATE QUARRY.—In our driving here in No. 4 the rock continues quite as good for slates, and when we consider that we are making good sizes (our present bottom being only eight yards from surface), there is certainly every prospect when the quarry is fairly opened of large returns being made.

CHYRASE CONSOLS.—Since my last report we have sunk our engine-shaft 4 fathoms below the 30 fm. level, and am happy to state that, in sinking the last 9 feet, several branches of Wheal Basset copper lode have been intersected, which have produced many very rich stones of copper; and being now within 8 fms. of the main lode, we may confidently expect it will prove very productive; and as our average rate of sinking continues to be 9 ft. per week, we shall, doubtless, be enabled to commence driving on this lode in the 40 fm. level, in about a month from this time.

COCKLEY BECK.—The lode continues to look as kindly as it possibly can—in fact, the mine never looked so well as it does at present. I advise you to sink upon the lode over the ground pointed out in my last report as indicating a deposit of copper beneath. I believe you would then have a good mine, for I never saw such a fine lode without a great deposit of copper. The present level is decidedly too shallow to lead to much benefit.

COPPER BOTTOM.—In the rise in the back of the 30 fathom level, and in the winze sinking in the bottom of the 20 fm. level, west of Paul's shaft, there has been no alteration since my last report. In Highburrrow shaft, the lode is 2*l* feet wide, yielding good stones of yellow ore, and improved since last reported. In the 20 fathom level, driving west of Kendall's shaft, the lode is looking much better; it is 18 in. wide, principally composed of munderic; it, however, contains some ore. In the winze sinking in the bottom of the 10 fm. level, a few fathoms west of the above end, we have a beautiful munderic; the lode is 2 ft. wide, containing spots of ore. I am confident this lode will prove productive at a deeper level. We hope to have the flat rods working at May's shaft by the end of next week; after which we shall open ground more extensively. Our monthly cost will be reduced considerably; and it is my opinion that, in developing the resources of the western part of the mine, we shall yet amply remunerate the shareholders for their outlay.

COURT GRANGE.—We sampled yesterday 32 tons, which will leave a good profit—say, 12*l.* for the month. The 40 east (the bottom level) is in a fine course of silver lead ore. The shaft is sunk to the 10 fm., and we expect to see the lode in that level next week. At Llety-hen, the 10 fm. level is opening good ore ground.

CWM DAREN.—There is good ore in the 10 fm. level east and west of the engine-shaft. This mine will pay a dividend in January.

CWM ERFIN.—The levels are still looking well, and 27*l* tons of ore are expected to be raised in the month, last month's produce having been 18 tons only. About 30 tons will be sampled on the 1st December.

CWM LLANAFON (LEAD, LLANGYNOG).—Capt. James Thomas, of Clerk Castle Mines, Llangynog, Montgomeryshire, thus reports on the adventure:—This set is situated in the parish of Llangynog, county of Montgomery, is held at 10*l*-tho' royalty, and comprises an extent of land covering an area of about 500 acres, in the immediate vicinity of the celebrated Llangynog and Craig-y-Bwya Lead Mines; and it is supposed

the lodes of the latter mine run through this set. There are two parallel lodes running through this mine, from 18 in. to 2 ft. wide, composed of quartz, flookan, and lead ore, in most congenial strata, with every indication to warrant a rich deposit of ore in depth. The south lode is already producing some beautiful specimens of lead ore. I beg to say, that taking this set in all its connections—two large lodes in a stratum of ground congenial for lead ore, and after looking at what I deem the leading features of the set, I do not hesitate to state that few new concerns present such favourable indications of being a productive mine as Cwm Llanafon. The set is extensive, and the locality good; it can be worked for a considerable depth without the aid of machinery, except for dressing and crushing the ore.

CYFANNEDD FAWR.—In our sinking on the eastern lode the water has become very troublesome, and the greenstone has now made its way quite into the heading side. We have, therefore, thought it advisable to drive south for the junction from our present bottom, having 4 ft. room, so that the barrels may dip. The nine men have commenced this day (November 18), and in about 2 or 3 fathoms I hope to meet the run of ore.

DEVON CONSOLS.—We sold 15 tons of copper ore to Lowe's Patent Copper Company, at 2*l*. 1*q*. 6*d*. per ton. Oliver's adit is in a good course of copper and a silver-lead ore, and there is much valuable ore ground gone down in the level above, or level Coad.

DEVON BURRA BURRA.—Two fine caunter lodes, have been cut, which intersect all the east and west lodes, and considerably enhance the value of the mine. Some fine stones of ore have been lately raised from the bunch of ore gone down in the bottom of the level from 15 to 20 fms. west of the shaft—the two bunches of ore already passed over are 30 fms. long. We have an offer to take a pitch at, and above the present levels, for 12 months. We are making preparations for sinking at this ore ground.

DEVON CONSOLS NORTH.—We are now driving to the south lode to ascertain the exact distance between the two. We hope to reach the junction of the lodes in 10 days or a fortnight, as the ground still continues easy for driving; the lode is as promising as ever.

DEVON CONSOLS WEST.—Our new engine-shaft has been set to six men, to sink as deep as possible, at 3*l*. per fm., to the end of the month. They are now 15 ft. under the surface, and the ground favourable for sinking. By the end of this week we hope to have put in the timber, and the shaft secured to the surface. We are also erecting temporary sheds for the men's accommodation, and storing materials, &c. We are filling up the old coateing pits, and all agree that we have a very promising set.

DOLFRWYN OG.—At Williams's shaft we continue the sinking. The ground is the same as last reported. We are not expecting any body of copper ore in this work for some time, although we have seen several times found some native copper in the points we have passed through. A whin must be prepared at once to save any delay, as we propose going down 30 fms. in two lengths, make a lode in 15 fms., and then put the whin up. Harvey's Trial: We have now completed the timbering in this level; the lode continues very favourable for copper, but there is little improvement in the produce since my last report.

EAST BLACK CRAIG.—We are now making very good progress in sinking the engine-shaft, which is down 15 fms.; the string discovered in it is enlarged, and well mixed with ore and jack. The ground is very much improved; we hope to have it down 20 fms. in about a month. As we have every indication of meeting with a good mine, I think it may be well to cross-cut to the lode at this depth.

EAST CROWNDALE.—The south lode has been taken down in the 58 fm. level, but still yields 2*l* tons of silver-lead ore per fm., and this is under a dead piece of ground in the 10. Taylor's shaft, sinking below the 10, is yielding 1*l* tons of ore per fm.

EAST DAREN.—The lode in the 20 fathom level is disordered by a cross branch, but still yields 2*l* tons of silver-lead ore per fm., and this is under a dead piece of ground in the 10. Taylor's shaft, sinking below the 10, is yielding 1*l* tons of ore per fm. The whin under the 10 fm. level is yielding 3 tons of ore per fm.

EAST TOLGUS.—The ground in the adit level south is more favourable for driving since the tin lode was passed. Some good stones of tin were found in this lode, and a new shaft is sinking to ventilate the adit and try the lode. The adit east, on North Butler lode, is in a lode 1 ft. wide, producing stones of ore occasionally.

EAST WHEAL GEORGE.—We have not done much in sinking the shaft during the past week, having altered the pitwork, and put the bends on the rings of the wheel. The 23 fm. level east is extended 55 fms.; the lode is still poor, and at present not very promising; therefore I think we had better stop it until we have seen the lode at a deeper level: this level west is driven 40 fms. from shaft; some stones of ore have been broken in the end this week. I recommend this level to be driven further. The stope are not quite so sure as last reported: we had a pretty good pl. of work underground previous to the last sampling, accumulated while we had no water to drive with. Every attention will be paid to the sinking of the shaft, in order to get it under another lift as soon as possible. We have sampled Oct. ores—viz. Leach's ore, 10 tons 17 cwt.; Adam's, 5 tons: total, 15 tons 17 cwt.

EAST WHEAL LEISURE.—The lode in the 38 fm. level east is 3 ft. wide, with ore, but not enough to save; the same level west is also 3 ft. wide, spotted with ore, and of favourable character. The lode in the 27 west is 3*l* ft. wide, with good stones of ore; the same level east is poor. The 17 east of Taylor's shaft, is producing 3*l* ft. wide, producing from 4 to 5 tons of ore per fm.; 7 fathoms remain to drive to come under the whin from the 10, in which there is a good course of ore. In the 17 east, on Taylor's shaft, the ground is greatly improved, lode 3*l* ft. wide, producing good stones of ore. The 10 east, on the north lode, is in a lode 3 ft. wide, producing a little ore. The whin below the same level is in a fine-looking lode; the part sinking on is 4 ft. wide, producing 1*l* ton of good ore per fm.

EAST WHEAL LEISURE.—The end in the tunnel is just the same as on my last report, intermixed with ore throughout; the lode still keeps its size and promising appearance for a course of ore, which I believe we shall have when we get on towards the cross-course. The rise is poor at present, but not without ore. We expect to start our engine to-morrow, as everything connected to her appears to be all right.

ESGAIR LEE.—During the past week we have extended the 10 fm. level on the south lode, 1 fm. east and west of engine-shaft. The lode is 4 ft. wide, producing blende and quartz, but poor for lead. The lode in the whinze below the deep adit is without alteration, yielding about 6 cwt. of ore per fm. The caunter lode in the deep adit, east of Jones's whinze, is still unproductive. The tribute pitches are as last reported.

GARREG.—We have not yet been able to unwater the bottom levels, being very unfortunate in dropping the lift; more than once it has been brought to surface, with respect to the rise over this level (the 70) and the shaft, we are doing our best to effect a communication, and hope, from the sound, to accomplish it within a week, after which greater facility will be afforded for carrying out the operations in this part of the mine; and we may also add, that since this lode has been intersected in West Kite-hill, and presents such favourable features, we have put two men to cotean midway to cut the same, which will be a guide to our future operations, and if found so kindly, it will act as a stimulus to push on with all our might to lay open the same, which in the end, it is our belief, will well repay for the outlay.

GREAT BRYN.—We have intersected a tin lode in the deep adit underlaying north 3 ft. in a fathom; we are in 2 ft., but not yet met the other wall; it is a hard lode, in beautiful soft strata, congenial with the nature of the lode. I take it to be worth 4 cwt. of tin per 100 sacks, and likely to make shallow; it is about 10 fms. under surface, so to hit fast. We have plenty of water for stamping power, which will be soon required to dress the ore.

GREAT WHEAL BADDERN.—The stope generally are looking very well. I calculate we shall sample about 50 tons of lead ore per month. We shall continue to open all the ground we possibly can in the different levels.

GREAT WHEAL TONKIN.—According to your request I have inspected the above mine; the set is an extensive one, situated at the foot of the granite hill, called Kit Hill, and embraces several lodes for a length of several hundred fathoms; various shallow workings have been made on different lodes, and a considerable amount of tin ground appears to have been wrought by former workers. The lodes are embedded in killas or clay-slate rock of good quality, and very congenial for minerals. The first I shall mention is No. 1, on north lode, which is about 4 ft. wide, with well-defined walls, underlying north about 2 ft. in a fathom, which has been wrought on by former workers on the back to a very considerable extent; it has not been wrought on by the present company, but from all appearance, judging from the immense quantity of work done on the back, is one of great promise. No. 2 lode (tin) is about 40 fms. south of

RAILWAY AND COMMERCIAL GAZETTE.

OLD WHEAL BASSET.—A shaft has been commenced sinking from surface on Wheel Clarence lead lode. The South Bassett lode is looking more kindly in a winze from the 10 fm. level. The 20 fm. level, on the flat lode, has passed through some ore, but is again disordered by a small slide. There is one tribute pitch working on the red lode, at 11s. in 12.

PENDARVES AND ST. AUBYN.—In the shaft the ground appears to be somewhat harder than it has been. The lode in the 34 fm. west from the engine-shaft, is decidedly improved in appearance, producing much better stones of ore, also being increased in size. In the 24 fm. level, west of the engine-shaft, the lode is still mixed with the cross-course, in consequence of which we cannot say much as to its appearance. The cross-cut north progresses favourably, and the men engaged in sinking the shaft on the same are proceeding rapidly. The lode in the deep adit east, on the north lode, is rather improved in appearance, being about a foot wide, and of a promising character. We find it very difficult to get men for the clearing of the deep adit, but hope soon to procure a party well able to put it through. The tribute department is looking much the same as it has been. If it accords with your views, I think we shall be enabled to take a stamp at a short distance from the mine for the stamping of our tinstuff, so that in about 6 or 8 weeks we might be enabled to return the whole from the time of our commencement.

PENTIRE GLAZE AND PENTIRE UNITED.—The engine-shaft is now completed to the 34 fm. level, and the sumpmen are engaged in casing and driving the shaft, to throw the kibbles to the bottom, after which we shall commence cutting plats, and driving north. The lode in the 22 fm. level, south of boundary shaft, is large, and carrying lead throughout; it is somewhat disordered by an elvan course, but continues still very promising. In the 22 north the lode is 5 ft. wide, 3 ft. of which is real good lead work; the lode in this end has been improving since last setting-day. In the stopes below the 10 fm. level, south of the rise, the lode is 4 ft. wide, good saving work; in the stopes about the 10 fm. level, south of the rise, the lode has improved since last report; this is a broken piece of ground, and is likely to turn out well. The stopes about the 23 are looking well; the lode is 10 ft. wide, yielding good saving work, especially towards the east and west walls. No alteration at South Hill worth noticing. The parcel of silver-lead ore mentioned in last report weighed 22 tons 1 cwt., dry weight. We are about to fix a new 24-in. plunger at the stampa floors, to supply the crusher and stampa with a constant supply of water, and are enlarging the reservoirs for that purpose.

PRINCE ERNEST (NEAR BODMIN).—I have great pleasure in informing you that the men cut last night (Nov. 18) the first lode; it is one of the most promising I have seen in this neighbourhood, a good proportion of grey and black ore throughout. I daresay we could set a good tribute pitch at 2s. to 2s. 6d. per ton.

RIX HILL.—In the 28 fm. level the lode is 3 ft. wide, good work. I hope, by Saturday next, after extending a little on its course, to be able to give you some idea of its value. We purpose driving in the 40 south, and also in the 50. The 17 going east has improved since my last.

RHOSWYDOL AND BACHEIDDON.—Since my last we have proceeded on our new discovery on Bacheiddon lode; from the extreme points where we have been able to discover lead ore coming up to the surface is 60 fms. in length, on the course of the lode east and west. We have now six bargains sinking on the lode, in five of them four men, in the other six, in the two shafts four. I have let an adit to come under these shafts at a depth of 5 fms., six men to drive; it will cut the lode by the end of the month, and some of the shafts will be as deep, so that we may drive from one to the other, and stope away the ground between them—every day increases my confidence that it will carry ore in depth. I do not at present intend making any further surface researches, our adit shall be driven on the course of the lode wherever it goes. I stated before that the new discovery is the most northern of four lodes within a width of 70 yards, and another crossing nearly at right angles. These of themselves are facts strong enough to warrant our expecting a lasting mine, but besides these, provided a person stood in the centre of our discovery, I can point out to him, within a distance of 100 fms., the following lodes:—Sir John Conway's silver-lead lode (a paying mine), the Ceulon lode, the Rhoswydol lodes, the Crag-yr-Eryr lodes, the Bacheiddon old lodes, &c. Provided our new lode takes a straight line, or makes gentle curves right and left from a straight line, then every one of those lodes I have mentioned will intersect our new lode within the bounds of our own sett, and most likely are feeders for supplying the new lode with metal. To the east of our new mine we have a length of about half-a-mile on the course of the lode, and to the west nearly a mile in our sett. From the north side of Bacheiddon we can drive levels every 20 fms., the shortest will be about 70 fms. in length, and the longest 100 fms., which will intersect the lode at a depth of about 80 fms. at least. Taking all these matters into consideration, this new mine has every prospect of being a lasting one.

RUNNAFORD COOMBE.—The men are still stoking in the lode which was left during Capt. Hooper's agency, and they broke yesterday (Nov. 13) as good stones of tin as ever I saw, specimens of which I have brought with me for the inspection of the shareholders. The 14 heads of stamps are constantly kept at work, night and day. I have now a batch of tin ready for the market, samples of which I have sent to Truro and the Tamar Smelting-Works, and this morning answers were received from both parties. From Truro the offer is 53d. 10s. per ton; from Tamar Smelting-Works, 52d. 10s. per ton, delivered. There is every probability of the stamps being constantly kept at work. We have driven a cross-cut north, opposite Morris's shaft, 2 fms. 4 ft., and have cut a good lode, from 1 ft. 8 in. to 2 ft. wide, similar in appearance to others opened upon, carrying tin, which I should strongly recommend to drive on, as it has so promising an appearance. In conclusion, I am happy to inform you that our prospects are brightening, and I have not the least doubt, if the mine is fully developed, it will prove a dividend-paying mine.

SILVER VALLEY AND WHEAL BROTHERS.—The leader of the lode in the back of the rise from the 24 fm. level varies from 1 to 2 inches in width, and is rich for grey and crystalline silver; we have broken about five bags of the best work from there during the week, and more than that quantity of good work for dressing, and as we purpose putting two more men there, our returns will be greater. In the end of the 24 the lode is not rich—part of it is saving work, containing silver-lead. In the Footway shaft the lode varies very much in quality—sometimes very good for silver, at other times the reverse. Driving west from the winze, east of Wheal's shaft, we have come into crushed ground; all the lode is saved for dressing, and in it there are some very good stones of silver ore. We shall take samples on Saturday or Monday from the very good stones of silver ore, which is dressed.

SOUTH TOLGUS.—The lode in the rise in the 66 fathom level is yielding 1 ton of ore per fm. The north lode, in the 42 west, is yielding 1 ton per fm. Youlden's lode, in the 42 west, is yielding 1 ton per fm. The same lode, in the 32 west, is yielding half a ton per fm., and is also looking very promising, with good stones of ore in the 22. The south lode, in the adit east, is yielding 1 ton of ore per fm.

SOUTH TRELAWSY.—The cross-cut west is still driving in the 60, by six men, the ground in a settled state, composed of a deep blue killas. We have met with a misfortune in the 20 fm. drawing lift; one of the pumps split, and we were obliged to take it out and put it on the top of the lift: it now answers well.

SOUTH WALES.—We have extended the 12 fathom level on the south or Frongoch lode 5 fms. east of Thomas's shaft; for the last 2 fms. the lode has only produced stones of ore, but the present end has a more promising appearance.

TAMAR SILVER-LEAD.—The engine-shaft is down 6 fms. 3 ft. below the 205 fm. level; our sinking has been impeded during the last fortnight, by means of putting in new rods, and connecting another boiler at the pumping-engine. In the 205 end, driving south, there has been no lode taken down since last reported on. In the 190 end the lode is 2 ft. wide, and producing work of a coarse quality. In the 175 end, driving south of the engine-shaft, the lode is 18 in. wide, 1 ft. of which is good work.—Spurgeson's shaft: In the 175 fm. level, driving south, there has been no lode broken since we commenced driving; in the same level, driving north, the lode is 18 in. wide, saving work. In the 160 the lode is 4 ft. wide, composed of capel and fluor-spar, with good stones of ore. At the north mine, in the 90 we have but the eastern part of the lode, which is about 2 ft. wide, and yielding work of a promising appearance. In the 80 end the lode is 18 in. wide, 6 in. of which is rich work. Our last parcel of ore, sampled on the 1st inst. No. 1, computed 38 tons, No. 2, 35 tons, was sold to T. Somers, Esq., at 18s. 14s. 6d. per ton.

TAVY CONSOLS.—The shaftmen are getting on well with cutting the plat and sinking the shaft under the 56 fm. level. There is no improvement in the 56 fm. level since my last—the lode is from 9 to 10 feet wide, interspersed with ore throughout, but not rich at present. In the 46 fm. level east there is an improvement in the lode, a branch of ore for 2 feet drawn from the back of the end, 9 in. wide, solid—in the bottom part of the end it is more dredgy; this I believe to be part of the same branch of ore we have had in the 66, as the ore is the same quality and the lode the same character, composed chiefly of spar, pebble, munde, and copper ore, the part of the lode being carried 4 ft. wide. The lode under the slide is cut in the 36, east of the shaft, which is seen 5 ft. wide, and no north wall yet; the south part of the lode is taken down for 6 fms. in length, and is producing saving work for copper ore, and very rich for munde. No alteration in the cross-cut north in the 24. The pitch in the back of the 12 is looking pretty well, and the men are getting good wages. We are sending ore to the quay for sampling at the end of the month.

TINCROFT.—Highburrow tin lode, in the engine-shaft, sinking below the 182 fm. level, is 6 feet wide, worth 30s. per fm.; in the same level east the lode is 4 feet wide, worth 8s. per fm. The lode in the 142, east of Martin's east shaft, is 4 feet wide, worth 10s. per fm. for tin and copper. In the 132, driving east of said shaft, the lode is 4 ft. wide, worth 13s. per fm., the stopes in the back of this level are worth 10s. per fm. for tin and copper. Chappelle's lode in the 120, driving west of downward shaft, is 3 feet wide, worth 10s. per fm. for copper. In the 110, driving east of said shaft, the lode is 4 ft. wide, worth 10s. per fm. for tin; in the west end, same level, the lode is 3 ft. wide, but poor; we expect in driving this end about 10 fms. further to get into some productive ground, from the appearance of the bottom of the level above. Grout's lode, in the 80, west of downward shaft, is 3 ft. wide, worth 12s. per fm. In the 70, west of said shaft, driving on the south part of Grout's lode, the lode is 2 ft. wide, worth 5s. per fm.; in the end is within 2 fms. of the boundary. On North Tincroft, in the 120, driving east of new engine-shaft, the lode is 3 ft. wide, worth 4s. per fm.; in the west end, same level, the lode is 3 ft. wide, worth 10s. per fm. for copper. In the 110, driving east of said shaft, the lode is 1 ft. wide, worth 10s. per fm. for tin; in the west end, same level, the lode is 2 ft. wide, worth 20s. per fm. In Prudeaux's winze, sinking below the 90, about 6 fms. west of the shaft, the lode is 3 ft. wide, worth 22s. per fm. At Stansby's, about 15 fms. west of the shaft, in the 24 fm. level, we have set a cross-cut to drive south to cut East Wheal Croft's caunter, and expect to do so in the course of a fortnight. I am glad to inform you of a very good discovery on Dunkan's lode, in the back of the 100; about 12 fathoms west of the old engine-shaft the lode is 5 ft. wide, worth 40s. per fm. for copper; we have this lode standing to the south of the 90, and have, therefore, set a cross-cut to the adit south in the 90, and expect to cut it by the end of next week.

TREBELLAN AND TRESBESKIN.—Since my last, this mine has improved in appearance, the engine having reduced the water so as to enable me to enter, examine, and set seven pitches to tributaries in the 25 fm. level—we drive this level at 2s. per fathom by six men, this end yields good work for lead; near it I have set a pitch at 4s. per ton, and an adjoining one at 6s. per ton. About this place I intend to stope a piece of ground which is likely to be very productive, the mineral there having gone down from above. All the other pitches in this level are taken at 6s. per ton. The east end of the 15 fm. level has greatly improved during the past week, and shows those indications which are uniformly found near a branch of lead; the west end of this level has greatly improved, affording excellent stones of lead in the lower part; in the back of this level there are four pairs of tributaries at work, raising ore to grass—they are working at 5s. per ton, and are likely to make good wages. The water has been so far mastered by the lifts as to enable us to put the plunger in perfect order, and to set it to work, consequently lowering the water steadily. This state of things has induced tributaries to come to us with some degree of confidence in our prospects; indeed, they have applied to be allowed to drive the 35 fm. level, although it is not dry. If nothing happens to check us, the engine at its present rate of working will bring us dry at the 35 fm. level about the middle of next week, when of course we shall proceed to put that level in full operation; and if our present prospects continue, as I am told they do by those who have worked there a fortnight, we shall raise lead from there in good quantity. We have begun to

bring lead to grass, and I have no doubt we shall continue to do so, as the tributaries have gone heartily to their work. Taking the mine as a whole, its present aspect is decidedly a very favourable one.

TREGARDOCK.—The engine-shaft is sunk 22 fms. 1 ft., at the bottom of which, or nearly so, we have driven the cross-cut south towards the lode 3 fms. 1 ft., and expect to reach it in about 2 fms. more, which I expect will be about the beginning of Dec. In the last 6 feet the ground has been more tight than usual, in consequence of meeting with some branches of spar; at this time we are clear of them, and the ground more favourable for driving. In the last foot or two we have had some good portions of silver-lead ore in the heads, and trust shortly we shall find a productive lode. The water is still very easy, and the horse-engine continues to work well.

TREGORDEN.—The lode in the 50 end south still continues to yield some good work; it is 18 in. wide, and ore throughout. In the 40 end south the lode with capel is 2 ft. wide, and of a more promising character than it was before. For the present the driving the 40 end north is suspended, and driving has commenced in the 30 south, under the old engine-shaft. On the 13th instant 5 tons of rich silver-lead ore were sampled.

TRELAWSY.—Trelawny shaft is sunk 5 fathoms below the 107 fm. level—the ground as before. In the 107 end north and south the lode is 3 ft. wide, and worth 6s. per fm. In the 92 end north the lode is 4 ft. wide, and worth 8s. per fm., and in the south end in this level the lode is much improved, being now worth 10s. per fm. In the 82 end north the lode is 3 feet wide, and worth 11s. per fm.; in the north winze in the bottom of this level the lode is 3 ft. wide, worth 10s. per fm.; we have now stopped sinking it, having a good lode coming up from the back of the level below—we intent to communicate it by way of stoking. At the north mine, Smith's shaftmen are still about the necessary shaftwork. Since last week we have forked the water, and have resumed the driving of the 68; in the north end the lode is worth about 7s. per fm., and in the south end 11s. per fm. The 55 end north is without alteration; the two winzes in the bottom of this level are respectively 40 and 60 fms. north of the present 65 end; they are now worked as tribute pitches—each 4 or 5 fms. long, and are turning out well so far. The 78 end, north of Trebene, has not been driven since last week, not being able to draw the stuff, the engine being under repairs. In the 68 end, north of ditto, the lode is 3 ft. wide, worth 6s. per fm. Our stopes and tribute pitches are producing much as usual.

TRELEIGH CONSOLS.—Christose Lode: In the rise above the 100 fathom level, west of Garden's, the lode is 20 inches wide, with stones of ore. In the 90, west of ditto, the lode is 24 ft. wide, worth 5s. per fm.; in the stopes above this level, east of Woolcock's rise, the lode is 2 ft. wide, worth 35s. per fm.; in the stopes above, west of Terrell's winze, the lode is 2 ft. wide, worth 30s. per fm.; the winze below, west of Garden's, is suspended, as there is too much water for sinking; these men are clearing the 40 fm. level at North Down; in the same level, east of Christose's, the lode is 2 ft. wide, worth 40s. per fm. The 64 cross-cut, north of Parent shaft, is driving north to cut Parent lode; ditto south, to cut the Middle lode.—Middle Lode: Burgess's shaft, below the 25, lode 15 in. wide, with stones of ore.

TYLLWYD.—The adit level eastward has reached the old men's workings where there is ore for 30 fms. long, which will yield 15s. worth to the fathom. As soon as the machinery is completed good profits will be divided. **TYWARNHAYLE.**—The 100 west is yielding 4 tons of ore per fm.; there remain 5 fms. to hole to the level coming east. The 90 east is yielding 1 ton per fm. The lode in the 60 east, on Taylor's, is disordered by a capel, and yields at present only 1 ton of ore per fm. This lode in the 60, is producing 3 tons per fm. Wheal Clarence lead lode, in Nancekuke, continues to look well, and productive ground is being laid open fast in the several shafts and levels.

UNITY CONSOLS.—The sumpmen are now down nearly 9 fms. below the 60 fm. level in Gray's engine-shaft; the ground has proved very much against the men during the last week, owing to a fault of capel and spar. I hope they have nearly got through it; we have no doubt they will be down to the 70, and cut the lode at that level before Christmas. In the 60 fm. level, east of engine-shaft, the lode is 2 feet wide, and greatly improved for tin, worth 3s. to 4f. per fm.; in the 60 fm. level west the lode in the end is 2 ft. wide, producing good work for tin and copper, and worth 5s. per fm.; the stopes at the back of 60, west of said shaft, are not looking so well for copper as before; the lode is 3 ft. wide, and worth 10s. per fm. for tin; in the stopes in the back of the 60 east the lode is 2 ft. wide, and worth 30s. per fm. for tin and copper, 3s. per fm. In the 50 west the lode in the end is 2 feet wide, and worth 6s. per fm. for tin. At Lambo, the 40 fm. level, east of Kenworthy's shaft, is suspended for the time, in consequence of water in Wheal Kitty oozing through, and the men are afraid the water in that level will break in upon them, but as soon as the flat rods, and we have forked to the 40, the men will recommence operations in that quarter with renewed vigour; the flat rods, and all things else requisite for working Wheal Kitty, are in a fair way towards completion, and I hope we shall be at work before my next report. The cross-cut in the 40 fm. level, going south from Kenworthy's shaft, is progressing steadily; the ground is rather stiffer than before, but must still be considered good for driving. The eastern whim-shaft, in Ingram's and Croft's, is holes to the 40 fm. level, all complete for drawing; we shall commence using it for that purpose to-morrow. In the 30 fm. level, east of engine-shaft, the lode is 2 ft. wide, and of a broken character; we have no doubt they will be down to the 70, and cut the lode at that level, and find a good branch of lead ore.

WHEAL VENTON.—We have met with a slide in the 40 fm. level, north of the cross-cut, which has our lode more than 6 ft. to the east. We had a good branch of lead up to this point, but at present we have none worth notice, though I have no doubt we shall have it again before this week is expired, as the ore part of the lode was near the east wall, and since we met with the heave we have not yet got to the eastern side of it, but are driving in that direction through the lode as fast as we can. We shall commence driving south on the course of the lode to-morrow, and begin to enlarge the pit and cut ground for penthouse, &c., to prepare for sinking. The 30 end north is still in a very promising lode, with a small branch of lead in it. In the stopes at this level the ore does not hold up far above the back. This level appears to be near the top of the ore.

WHEAL VENTON.—We have again cut through the lode in the 40 fm. level north, and find a good branch of ore 6 or 7 in. wide, fully as good, or better, than we have seen it before. The ground only moderately hard, and very congenial for lead. You may now safely infer that Venton has established itself as a mine.

WHEAL WILLIAMS.—We are getting on with dividing and casing the south lode engine-shaft as fast as possible, which will be completed by the latter part of this week, when we shall cut plat and drive 2 fms. west, preparatory to sinking the shaft below the 30 fm. level.

WHEAL ZION.—We have nearly completed 24 fathoms in Lemon's shaft; should have sunk more, but the men have been employed some time in securing the shaft and fixing a pent-house at the foot-wall of the Champion over them, which was not taken down, showed signs of giving way: this work is now complete. In another week or eight days we hope also to complete the purposed depth and drive into the main lode. At present the appearance of the shaft is altered from last week, having cut a course of hook-like, an inverted wedge; in it we find stones of black and yellow ore, and larger ones of munde and gossan. The droppers that I spoke of a fortnight ago are continuing to follow the main lode, producing beautiful stones of munde and yellow ore.

WHEAL LANGFORD AND BARING UNITED.—Dare's shaft is now 10 fathoms below the adit level, and the sumpmen are engaged in sinking a fork, which will be completed and sullared over by the end of this week, when we shall immediately commence a cross-cut north to intersect the Langford lode; we have about 9 fms. to drive, which we anticipate will be done in about six weeks. No alteration at Wheal Baring since last report. We have not taken down our silver lode since last week; we have about a ton and a half of silver ore now at surface, which we intend to commence dressing on Monday next, to prepare a parcel for the market.

WHEAL MAY.—I have now put the men to drive east and west in the 20, at the bottom of the engine-shaft, as there the lode is looking very promising to produce ore, and likely to drain the 10 fm. level, so that we shall be able to put more men to work on the branch of rich ore already discovered.

WHEAL MARY ANN.—Pollard's shaft is sunk 5 ft. under the 80 fm. level. The lode in the 80 fm. level, north of the shaft, is 3 ft. wide, and worth 14s. per fm., in the same level south it is 2 1/2 ft. wide, and worth 8s. per fm. The lode in the 70 fm. level south is 2 ft. wide, and worth 8s. per fm. The lode in the 60 fm. level south of the shaft, under this level, is 2 ft. wide, and worth 6s. per fm. The winze north of the shaft, under this level, is holes to the 60 fm. level. The lode in the 60 fm. level, south of the shaft, is 1 1/2 ft. wide, and worth 6s. per fm. The lode in the 50 fm. level, south of the shaft, is 1 1/

New Patents.

LIST OF PATENTS GRANTED DURING THE PAST WEEK.

W. C. Scott, Camberwell, for certain improvements in the construction of omnibuses and other public and private carriages.

J. Lott, Whitechurch, Southampton, for improvements in harness and fastenings.

C. Ewing, Bodorgan, Anglesea, for an improved method or methods of construction applicable to architectural and horticultural purposes.

P. Erard, Great Marlborough street, for improvements in piano-fortes.

A. D. Lisco, Slough, for improvements in the manufacture of chains, and in combining iron with other metal applicable to such and other manufactures.

W. Hamer, Manchester, for certain improvements in weaving textile fabrics.

H. Bessemer, Baxter House, St. Pancras, for improvements in producing ornamental surfaces on woven fabrics and leather, and rendering the same applicable to bookbinding and other uses.

J. J. Bramwell, Millwall, for improvements in working the valves of steam engines for marine and other purposes, and in paddle wheels.

T. Statham, Sidney-street, City-road, for certain improvements in piano-fortes.

J. S. Bailey, Victoria-terrace, Keighley, York; and I. Bailey, Victoria-street, Bradford, York, for certain improvements in preparing, combing, and spinning wool, alpaca, mohair, and other fibrous materials.

C. F. Tachet, Paris, for improvements in preparing wood to prevent its warping or shrinking.

DESIGNS FOR ARTICLES OF UTILITY REGISTERED.

T. and C. C. Robson, Liquorpond-street, double-berelled iron for solid hoop wheel-tires.—A. Craven, Stamford-hill, feeding apparatus for steam-boilers.—S. Williams, Commercial road, Lambeth, derrick lift.

PROVISIONAL REGISTRATIONS.

T. E. Jones, Birmingham, improvement in the solar shade.—A. A. Hely, C.E., West-minster, anti-pickpocket, or pocket protector.—Walter de Winton, Lambeth Conduit-place, Birmingham, 18.—M. Cavanagh, Notting-hill, adjusting lock-spindles.—T. Harrison, Liverpool, Prince of Wales's piano forte.—*Mechanics' Magazine*.

The Mines of Rio Tinto, in the neighbourhood of Seville, have lately attracted much notice. An able pamphlet on their capabilities has been written by Mr. Edward Manby, the brother of Mr. Charles Manby, the secretary of the Institution of Civil Engineers. This gives a full report of the present and future prospects of the association to work this property. These mines have been worked from the earliest period. In the year 1762 the labourers there discovered a plate of copper with the following inscription:—"Imperatore Nervos Cesari Augusto Pontifici, Maximo Tribunatu Potestatis Patri Patriae Consuli IIII, Designato IV, Pudentissimo Augusti Libertus Procurator Patrono suo posuit." We shall give some particulars in our next Journal, as the mines possess the capabilities of further development, and offer a good investment for capital. The want of machinery and scientific knowledge has hitherto prevented them from being explored.

The Viscount de Sequeville, whose name is familiar to our readers as connected with the Duisburg Mining Company, applied on Thursday last for his discharge from the Insolvent Debtors' Court. From the evidence adduced during a protracted investigation, it appeared that he had iron mines in the neighbourhood of Cologne, which, if properly worked, would not be underrated at 15,000*t*. The sum of 800*t*. had been given by him to the Prussian Government for the Duisburg Mines. That sum had been invested, in the year 1847, by the Witten Zinc Company, which, when the revolution of 1848 broke out, it was found necessary to break up. He had, likewise, sums of money owing to him from the Drysdale Railway Company, which he was to receive upon return of the Belgian Government of the caution-money received from the shareholders. The principal cause of the failure of the company arose from the fact that English capitalists withdrew, and were indisposed to speculate, owing to the unsettled state of relations on the continent, and particularly Germany, where his property was situated. The final order was adjourned, with leave to apply on the 12th December.

HARRISON'S ELECTRO-MAGNETIC ENGINE.—This engine acts on the principle of the induced magnetic power of a compound coil or coils of insulated wire conveying a current of galvanic electricity, which acts upon and draws within a suitable aperture, or repels therefrom, a plate or a series of plates of soft iron, or a body of wire, or permanent steel magnets. Two highly-important advantages are gained by this arrangement:—1. They succeed in altogether avoiding the greatest impediment which has hitherto existed in the economical use of electro-magnetism as a motive-power—viz.: the retarding influence of electro-magnets acting on each other after the battery current has been cut off; for as there is but one body of iron or steel in connection with each coil, no such counter-attraction can possibly occur.—2. Another great superiority of the principle is, that the effect of secondary currents is very much reduced; and where permanent magnets are employed to pass within the coils, the induced current augments the primary current, and thus a considerable saving in the consumption of the materials of the battery is effected. Other advantages possessed by their engine, the patentees briefly point out:—1. They obtain great length of stroke in engines of reciprocating action, and in rotary engines an almost unlimited amount of power may be obtained; the soft iron plates, or permanent magnets, being arranged in the manner of an endless chain, with intervening non-magnetic bodies passing through the coils, over drums.—2. The body of iron or magnet acted upon exposing a large amount of surface, an instantaneous and powerful induction of magnetism occurs; and thus the highest speed is obtained.—3. By employing a compound conducting material, they transmit a strong current of electricity, and obtain increased magnetic effect.—4. The larger the engine, the greater is its economy, which is directly reverse to the act in all other modes of applying electro-magnetism hitherto adopted. After many years of experiments, they feel great satisfaction in having accomplished so much, and ascertained the true direction in which improvements are to be made. They have no hesitation in asserting that they shall be enabled to obtain motive-power by their electro-magnetic engine at as cheap or cheaper a rate, and much more advantageously, than by steam.

THE ELECTRIC FLUID.—Dr. Steinheil, director-general of the electric telegraphs in the Austrian States, has discovered the means of causing the electric fluid to act at any distance. Heretofore it has not been possible to transmit signals for more than 800 miles. Dr. Steinheil has not yet stated the secret of his apparatus, which he calls the "translator." It is combined with the ordinary telegraph. The experiments made with it have perfectly succeeded. A despatch sent from Semlin by way of Hermannstadt, Lemberg, Oderberg, Vienna, and Trieste to Milan, arrived as rapidly as one sent from Vienna to the Palace of Schönbrunn, a very short distance. One advantage of Dr. Steinheil's system is to prevent delay at any station by the multiplicity of despatches, as, instead of sending them by the direct lines, they may be forwarded as rapidly and as safely by any others, even by those which go the most roundabout way.

Mr. Harper, of the Taff Vale Iron-works, Glamorganshire, has had a gold watch presented to him, at a public meeting, bearing the following inscription:—"Presented by the workmen of the Taff Vale Iron-works, on the 8th Nov., 1851, as a testimonial of respect and esteem with which they regard him, after his having been for five years connected with these works."

ACCIDENTS.

Illugas.—J. Ellis, aged 12, in coming up the new shaft at North Wheal Bassett, stepped on a balance-bob connected with some flat-rods, which, taking stroke at the instant, carried him up against a beam, and crushed him to death.

St. Winnow.—As J. Angwin and comrade were coming up in a kibble at the Duke of Cornwall Mine, they met the descending kibble, which struck the former on the head, and he fell down the shaft and was killed.

Lees.—As a miner was charging a hole at this mine, a spark from the iron rod against the stone fired the powder, and he is so much injured that no hopes of his survival are entertained.

Tristock.—John Jeffery, one of the men who was injured at the Devon Great Consols Mine last week, has since died.

Bryngar.—As A. Stephens was working in West Wheal Providence Mine, he called to his comrades to lower to him a new pick, in doing which it unfortunately slipped from the rope and stuck in his side, from the effects of which he died. His comrades gave him notice to stand aside, which he neglected to do.

Explosion of Fire-damp at Burden.—Since the explosion in Lord Bradford's Colliery, on the 8th inst., the most untiring exertions have been made to extinguish the fire—the anxiety being greater from the endeavour sooner to get out the bodies of the two sufferers which remain in the pit. The air in the shaft was found gradually to cool down, and a good current of air established; and Mr. Gurney's admirable arrangement for extinguishing fires in mines has again been completely successful. The bodies were expected to be got out yesterday morning.

Abberdon.—James Shively, was killed at Lwydecoed by a fall of earth.

Whitewell.—H. Steel, who had been working in Duke Pit, and had come to what is called "the high," with a view of ascending the shaft of Wellington Pit, being impatient to reach the top, leaped into the skip before it had reached the level on which he was standing, and not catching hold of the rope, he was precipitated headlong down the shaft—a depth of at least 40 fathoms, and killed on the spot.

Dudley.—One man (Brooks) was killed, and two others (Bradley and Crispin) injured by an explosion of gas at Messrs. Blackwell & Co.'s Russell Hall Colliery.

Montgomeryshire Colliery.—William Scott was killed here by an explosion of fire-damp, caused by blasting with gunpowder, and three others were much injured.

Sedgley.—As John Lewis, aged 12 years, was working at Wednesbury Oak Iron-works, he got entangled in the "rolls," and was so frightfully mangaged, that death was almost instantaneous.

Walton.—Edward Jackson (who was subject to fits) fell from an elevated piece of rock at Mr. W. Harrison's stone pit, in Shaw's-alley, and was killed.

Bishop.—John Williams was killed by a fall of coal at Mr. B. Gibbons's colliery.

Wakefield.—On Wednesday morning, an accident occurred in Messrs. Proctor and Walton's colliery, at Shafaton, by which Henry Nunn and George Jagger lost their lives. They were borrowing wood from one hole to take to another, when a large portion of the roof fell, and killed them.

Current Prices of Metals, Stocks, & Shares.

METAL MARKET, London, November 21, 1851.

ENGLISH IRON, &c.		per ton.	THE		per lb.	10	8
Bar, bolt, & square, London	£5 2 6-5 0		Old copper	per lb.	9d		
Nail rods	6 0 0-6 2 6		Yellow Metal Slatting	per lb.	8d		
Hoops	6 10 0-6 15		Wetterstedt's Pat. Metal—C. O.	per lb.	1 11	0	
Sheets (angles)	5 7-12 6						
Bars, at Cardiff & Newport	7 6-4 10 0		FOREIGN COPPER, &c.	per ton.	77	0-27 0	
Refined metal, Wales	3 0 0-3 5						
Do. anthracite	3 10 0		ENGLISH LEAD, &c.	per ton.	16	10	0
Pigs in Wales	3 0 0		Pig.	per ton.	17	10	0
Do. do. forge	5 2-10 0		Sheet.	per ton.	18	0	0
No. 1, Clyde, net cash	18 9-2 0 0		Pipe.	per ton.	19	10	0
Blewitt's Patent Refined Iron			Red lead.	per ton.	25	0	0
for bars, rails, &c., free on	3 10 0		White ditto.	per ton.	21	0	0
board at Newport			Patent shot.	per ton.	21	0	0
Do., do. tin-plates, boiler	4 10 0		FOREIGN LEAD, &c.	per ton.	15	17	6
plates, &c., ditto			Spanish, in bond.	per ton.	19	13	19 6
Stirling's Patent	3 in Glasgow	2 15 0	ENGLISH TIN, &c.	per cwt.	4	4	0
Toughened Pigs in Wales	3 10-3 15		Block.	per cwt.	4	5	0
Staffordshire bars, at the works	5 5 0		Bar.	per cwt.	4	5	0
Rails (Staffordshire)	5 10 0		Refined.	per cwt.	4	5	0
Chains (Clyde)	4 0 0		FOREIGN TIN, &c.	per ton.	4	0-4	10
			Banca, H. C.	per ton.	8	19-3	19 6
			Straits.	per ton.	17	13	19 6
			TIN-PLATES, &c.	per cwt.	1	3	0
PSI.			IC Coke.	per cwt.	1	8	0
Gouriff.			IC Charcoal.	per cwt.	1	8	0
Indian Charcoal Pigs in London	5 10 0		IX ditto.	per cwt.	1	14	6
			SPELTER, &c.	per ton.	14	10	0
			Plates, warehoused.	per ton.	14	10	0
Swedish keg.	15 0 0		Ditto, to arrive.	per ton.	14	10	0
Ditto faggot	15 0 0		ZINC, &c.	per ton.	21	0	0
			English sheet.	per ton.	21	0	0
			QUICKSILVER, &c.	per lb.	3s	5d.	
TERMS.—a, 6 months, or 2 <i>per cent.</i> dis.; b, ditto; c, ditto; d, 6 months, or 3 <i>per cent.</i> dis.; e, 6 months, or 2 <i>per cent.</i> dis.; f, ditto; g, ditto; h, ditto; i, ditto; k, net cash; l, 6 months, or 3 <i>per cent.</i> dis.; m, net cash; n, 3 months, or 1 <i>per cent.</i> dis.; o, ditto, 12 <i>per cent.</i> dis.; p, cold-blast, free on board in Wales.							

WELSH BARS still continue depressed, but the accounts from the United States are much more encouraging.

SCOTCH PIGS have rallied and improved in price fully 6*per cent.* per ton; there are buyers of mixed Nos., warrants, at 39*s.* cash, and sellers at 39*s.* 6*d.*

LEAD is without alteration.

ENGLISH TIN is much enquired for: Foreign also continues in demand, but there are few sellers; 8*s.* 6*d.* has been paid for Banca, and there are buyers at that rate, but sellers of 8*s.* 6*d.*; Straits is held at 79*s.* 6*d.*

COPPER moves off steadily, without variation in price.

TIN-PLATES.—Large sales have been made both on the spot and for forward delivery at a slight decline in price—say 2*s.* here, and 2*s.* 6*d.* in Liverpool.

SPELTER has been animated: 150 tons are reported at 14*s.* 5*d.*; sellers ask 14*s.* 10*d.*

NEW YORK, Nov. 8.—Scotch pig-iron continues firm; common English bars have advanced—200 tons brought \$35, six months, which has since been refused for more; higher rates being now demanded.

The imports from foreign ports from 1st of January to 31st October this year, amount to 46,067 tons bar; 43,502 tons pig; and 604,600 bundles of other descriptions, against 47,182 tons bar; 30,760 tons pig, and 437,996 bundles other descriptions, for same time last year.

GLASGOW, Nov. 29.—As it is generally believed that pig-iron has seen the lowest point, there has been a strong disposition to purchase during the week; but as the makers refuse to sell, and holders of warrants are asking much higher prices, there has been little done, comparatively. Buyers, however, have been forced, in most instances, to pay advanced rates; and mixed Nos., good brands, storekeepers' warrants, for the iron, deliverable free on board anywhere in Glasgow, cannot be bought under 39*s.* 6*d.* per ton, cash down; and 4*s.* has been paid for parcels, three and four months open, with 2*s.* 6*d.* per ton deposit in cash. There is, however, very little iron offering, and the market closes very firm at the above quotations.

MINES.—The dealings in shares, during the past week, considering the abundance of money in the City unemployed, have been very small—few shares, indeed, having changed hands: Alfred Consols, Devon Consols, South Tolpuddle, Spearne Consols, Wheal Bassett, and Wheal Lovel, dividend mines, have been done at a trifling advance; all others at lower rates. Bell and Lanarth, United Mines (Tavistock), West Polgoon, St. Aubyn and Grylls, West Damsel, East Boringdon, Trebelle, Rhosyddol, Venton, Butterdon, Wheal Golden, and Wheal Langford are rather more in favour. The rest, on our second list, are generally in *statu quo*, and little doing.

In the Metal Market—Copper continues in excellent demand, both for home trade and exportation.—Lead is still dull of sale.—British Tin is in good demand, and a large business has been done: Foreign also is in request, at improved rates.—Tin-plates have again receded in price.—Spelter has been animated: 150 tons are reported at 14*s.* 5*d.*; sellers ask 14*s.* 10*d.*—In Welsh Bar-iron a moderate business doing, with an upward tendency; Staffordshire more inquired for.—In Scotch Pigs-iron some large speculative purchases have been made, and an advance of 6*per cent.* per ton has taken place.—Swedish Iron quite neglected.

In the Bullion Market.—Mexican and South American dollars, buyers at 4*s.* 10*d.* per oz. Bar silver containing gold, all gold above 5 grains in the pound to be paid for, 5*s.* 0*d.* per oz. standard. Bar silver without gold, 5*s.* 0*d.* per oz. standard. Bar gold, 77*s.* 9*d.* per oz. standard. Fine silver, 5*s.* 5*d.* per oz.

The silver-lead miners are pleased to see the steady rise in the price of silver, however small. A further advance has taken place since our last publication, notwithstanding the yield from several concerns in Cornwall, Wales, and elsewhere, is reported to keep up the average quantity.

The sale of copper ore at Thursday's ticketing was 2828 tons, amounting to the sum of 16,413*s.* 3*d.* 6*d.* the average produce and standard being 8*s.* 99*s.*

spirited manner in which they have commenced operations, with an ample steam-power of 60-inch cylinder engine, entitles them to success, and we shall be happy to announce that they have a good mine at an early period.

At Wheal Stanley meeting, on the 10th instant, the accounts for six months ending Oct. showed—Balance from the last account, 50L 6s. 1d.; costs and merchants' bills, 240L 11s. 1d. = 290L 18s.—By ores sold (less dues), 20L 17s. 7d.; call in May, 12s.; leaving balance against adventurers, 142L 0s. 5d. A call of 14s. per share was made to pay off the balance, and for further prosecuting the mine.

At West Wheal Jewel special general meeting, held on Monday, to rescind the resolution passed at the previous one held on the 3d. June last, in consequence of a very considerable portion of the shareholders not taking up their preference shares, such resolution was rescinded accordingly; and finding that the board had not received sufficient assents to the proposal of raising further capital upon the existing shares of the company, the board and committee of management had no alternative but to suggest the propriety of contemplating the dissolution of the company. A resolution was accordingly come to, recommending the board to convene a special general meeting of the shareholders at the earliest time the deed allowed, for the purpose of taking into consideration the propriety of dissolving the present company, which they have accordingly done, by calling one for the 8th December.

We are informed that a call will be made on Wheal Brewer shares in January next.

At Alfred Consols, the lode in the bottom level is improved to 60L per fm. for copper ore; the No. 1 winze, from the 80, from 20L to 30L; two branches there are valued worth 30L; the lode in No. 4 winze 80L per fm.; the tributaries throughout doing well. The sale of copper ore, on the 13th inst., 211L 17s., was for one month, and two-thirds of it profit.

At Tywardreath, the ground in the shaft is somewhat harder, having more spar and muriatic in it. They are about fixing a plunger-lift in the 30.

At Cefn Bruno, the lode in the shaft is worth 1L 10s. per fm.; the 24 fm. level 3 tons of lead ore per fm.; the adit west is poor.

At Cyphrass Consols, the progress made in sinking the shaft is about 1L fm. per week; consequently they expect to reach the 40 about Christmas.

At Cwm Eifin the last month's produce was 18 tons; this month's is expected to be 27L tons, so as to enable them to sample 30 tons on the 1st December.

At East Daren Mine the lode is rather disordered by a cross branch, but still yields 2L 10s. tons of silver-lead ore per fm. under a dead piece of ground in the level above. The winze below the 10, near Taylor's shaft, is yielding 3 tons of ore per fathom.

At East Wheal George, now they have top water to drive the wheel, they are using every endeavour to sink the sump down to another level. October copper ores sampled 15 tons 17 cwt.

At Prince Ernest Mine they have intersected the No. 1 copper lode, which is reported so good that tributaries would take it at 2s. 6d. in 1L; the cross-cut will be continued towards the numerous other lodes in the sett.

At Bat Holes Mine, on the 13th October, 51 tons of ore were sampled. Wood lode, in the 48, is opening excellent tribute ground. The tributaries' work promises well for a good sampling of ore for the present month.

The Owlcombe Beam and Union Mines have sent off their second lot of tin, and there is little doubt that the returns will become regular; they are on 5 tons being ready in December, and the same quantity in January next. The expenses of re-organising, repairing, &c., of this much neglected mine are nearly ended; and from the tin in sight, and the general appearances, the undertaking, it is expected, will become highly successful.

At Wheat Crebor, the crown wheel is replaced by a much stronger one, and the engine is again pumping the water from below the 12 fm. level. The winze in the adit, west of the cross-course, has cut into copper ore 12 to 18 in. solid on the south wall, under the capels.

At East Boringdon Park, the most important and valuable discovery has occurred in the 20 fm. level driving eastward, under the great banks of gossan: the lode is 9 ft. wide, ore throughout, and one part contains a branch of lead 2 ft. wide, worth about 18L to 20L per ton.

At Milw. Mines, the Herward shaft is down to the 110, and Milw. to the 70; a very comprehensive report, from Captain Absalom Francis, will be found among the British Mines, showing that the former proprietors commenced operations in 1823 and 1824, with an outlay of 11,200L. In 1829, they made their first dividend of 5600L, which, with those made for nine successive years, amounted to 128,241L 6s. 4d.; discontinuing them in 1840, it is represented, from failure of the pump-work. The sets were purchased of them in Nov., 1848. The machinery thereon is very complete; in fact, more than the drainage at present requires: they have one 20-inch crusher and steam winding-engine, 18 horse-whims, 14 different ladder roads to the different veins; the royalties being 1-12th above adit, and 1-15th below. The 100 fm. level has been extended about 70 fms., through ore ground, and on a lode 6 fms. north nearly 40 fms., on a vein yielding in places from 4 to 5 tons of ore per fm. Roskell's cross-cut has been put out to cut the south lodes, 200 fms. from New Herward vein. A new shaft has been sunk to this cross-cut 50 fms. deep, where, by trials eastward, a confident opinion of success seems to be entertained, and we hope to record it so in due season.

At the Keswick Mines they have cut into the vein in the bottom level, and as far as they have gone it is very promising. Other parts are also considerably improved, as will be found by perusing the report among our Mining Correspondence.

At Tockenbury Mine they have cut a lode 4 ft. wide, rich, supposed to be one of the South Caradon lodes. We expect next week to give some particulars as to this discovery.

Great progress is making in the formation of a company for working the Great Crinnis Mine: a handsome model of which, made by a labouring workman on the spot, is now to be seen at Mr. Manuel's office, in Austin-fair. It is intended to unite the Ocean sett with Crinnis—one-fourth of the shares being taken by parties residing in the neighbourhood, from whom will be selected a local committee.

We have received a communication from the committee of management of the East Wheal Croft, stating that the discovery of a caunter lode, noticed in our last, is not of the importance attached to it by the party from whom we received the intelligence. It being ever our wish to insert correct information, we feel obliged for the communication, which states—

"It is true, that in the position described, a small caunter branch has been seen, for some weeks past, in a tribute pitch, working at 12s. in 1L, embracing all the alleged courses of ore—but no such important improvement as that stated has really taken place" in this mine.

A large attendance of the local gentry and others interested in the Tavistock mining district took place at the East Crowndale Mine on Tuesday, to witness the starting of the new steam-engine lately constructed by Messrs. Mare, of Plymouth, and erected by Mr. Matthews, of Tavistock.

The engine, a 30-in. cylinder by 9-ft. stroke, did her work in a very satisfactory style, after witnessing which the company, numbering nearly 60, adjourned to the Bedford Hotel, where they sat down to an excellent dinner, served up in the noble banqueting-hall. Mr. Josiah Hitchens presided, and Captain James Carpenter, the indefatigable agent of the mine, was vice-chairman. After the usual toasts were given and responded to, we could glean from the opinions of the practical and scientific persons present that this mine bids fair to rival its predecessor in the same channel—the Old Crowndale and Crebor Mines. The East Crowndale, its immediate neighbour, has lately cut rich for copper.

We are extremely sorry to learn from our correspondent at Truro that a very extensive run of mines (six united into one company), whose paid up capital has been 30,000L, is reported to be in that gloomy position that, the late returns of about 4200L per quarter being inadequate to meet the expenditure, and the shareholders not inclined to respond to further calls, the abandoning of them is reported as inevitable. We trust this report may not be founded on fact, but that the exploring at the deepest and other promising levels eastward may enable them to meet their cost, and struggle on for some time longer, when their exertions may ultimately be crowned with success. We cannot forget the years 1839, 1840, 1841, and 1842, when a portion of this extensive run of mines was paying regular dividends, and shares bearing 20 per cent. in 1845, 50 per cent. in 1841 and 1842, 100 per cent. in 1839, and from 1835 to 1839, 150L premium; they were at par only 14 months ago. The machinery we know to be in fair condition, every improvement having been adopted that was found useful elsewhere. No set of adventurers deserve success more than the party we allude to, and we know they would not throw such a body of labourers out of employ if it was avoidable. We, therefore, trust they will speedily meet with such improvement as may warrant them continuing the mine, and to the benefit of all concerned.

The arrivals at Swansea include—from Port Adelaide, 500 tons of copper ore; from Chili, 500 tons of regulus and copper.

THE THAMES TUNNEL COMPANY.—The number of passengers who passed through the Tunnel in the week ending Nov. 18, was 16,886. Amount of money, £70 7s. 2d.

THE VICE-WARDEN'S COURT AT TRURO.—During the recent sittings of the Vice-Warden's Court at Truro, a party sued the resident agent of St. Michael Penhivel Mine for 5L 7s. 1d. for wages due. The advocate stated that he was obliged to sue on the equity side instead of the small court, because there were no adventurers of the mine resident in the county, and no solvent ones elsewhere! He therefore, sued as against the materials, and obtained a verdict.

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NOTICES TO CORRESPONDENTS.

Capt. James Hosking has left London for the eastern district of Cornwall; he will be at Callington for a week, and then proceed to Five Lanes and Bodmin, where he will also remain about a week. Letters addressed as above will reach Capt. James Hosking, and be attended to.

ROCKS ROCK.—W. P. C. will, as a creditor, be entitled to receive 16s. in the £, from the sale of the machinery, which, after paying the costs of six suits in law, left a balance of 861. 16s. 10d.

We could not possibly decipher the letter dated "Landulph, Nov. 14;" moreover, the mine to which the particulars refer, so far as we can gather, is not named.

A. Z. (Penzance).—The vacuum in the condenser is never quite perfect, for the cold water entering is heated by steam, and emits a vapour of a tension equal to about 3 in. of mercury—that is, when a common barometer stands at 30 inches, a gauge in connection with the condenser will stand at about 27 inches.

A Looker-on (Camelford).—We cannot insert our correspondent's communication, for this reason—that enough has been said about the mine in question to put all reasonable men on their guard, and teach them to "look before they leap." On authenticated and well-grounded information we will ever expose empiricism and abuse; but it is not our province to depreciate a mine, of which so many good reports are circulated from acknowledged authority.

A Subscriber (Durham).—We know of no work strictly relating to the geology and mineralogy of Australia. There is an excellent history of South Australia, with an account of its mineral riches, by Mr. F. S. Dutton. Coal has been discovered at a place called Newcastle, in New South Wales, and also in Van Diemen's Land. We have received no information as to the progress of the iron furnace.

E. (Higlegate).—The laws of falling bodies have been clearly defined, and the space, through which they fall per second are as the squares of the number of seconds that are falling successively—thus, as a body falls 16 1/2 feet in the first second, in the second it acquires a velocity of 64 1/2 feet, in the third 144 1/2 feet, in four seconds 256 1/2 feet per second, and so on increasing in a four-fold ratio for every second of time. When the height from which a body falls is given, the velocity at the end of the fall is easily acquired. The square root of the height in feet, multiplied by 9/2, will give the velocity.

B. S. Hoyland (Barnsley).—Noad's "Lectures on Electricity," published by Knight and Sons, is the most modern and perfect of works on electricity and magnetism. A much less pretentious, but excellent, manual has recently been published by John Weale, High Holborn, at a very low price.

CHYRESE CONSOLA.—In Capt. Michell's report, in the Journal of the 8th Inst., instead of "where we cut the lode in the 120 fm. level," &c., it should have been, "when we cut the lode in the 40 fm. level," &c.

R. B. (Cardiganshire).—Valonia is imported from Smyrna and the Mores; it is the cup of an acorn from a peculiar oak, contains much gallic acid, and is used in lieu of bark in tanning skins.

T. E. (Tredegar).—Besides the patent granted to Mr. Walker, 28th March, 1850, for improvements in the manufacture of sheets or plates of iron for certain purposes, there is one granted to Charles Geach and Thomas Walker, for an extension, as assignees, of the patent of J. Hardy, for an invention of a certain improvement, or certain improvements, in the making and manufacturing axle-tree for carriages and other cylindrical and conical shafts, dated 4th April, 1849. If you require further particulars, apply to Mr. Campion, 156, Strand, or any other respectable patent agent.

Scriptus (Hackney).—It is estimated that there are 7,000,000 gross of steel pens made annually in Birmingham, employing 2000 persons, and consuming 700 tons of steel.

A Young Boiler-maker (Ipswich).—The general rule for the dimensions of the chimney in steam-vessels by Boulton and Watt is 82 square inches per horse power, and in marine flue boilers they allow 18 square inches of sectional area of flue per horse power. This, however, appears to be about one-third greater than what is allowed by other makers, but with this proportion they do not supply so much steam. In marine flue boilers of good construction, the vent varies between the limits of 21 and 25, according to size and other circumstances; the largest should have the largest vent, and the calorimeter divided by the vent will give the length of the flue in feet. The collective area for the escape of the smoke and flame over the furnace bridge in marine boilers, according to Boulton and Watt's proportions, is 19 square inches per horse power.

H. S.—The two cases in equity, respecting West Polgoon Mine, are postponed until the January sittings of the Stannary Court, at Truro.

New Gas APPARATUS.—Mr. Love, of St. Andrew's-square, Glasgow, has patented a gas generator, applicable to baking, kitchen ranges, cooking stoves, and for supplying gas to locomotives, steam-vessels, and other purposes, for which a jury of the Great Exhibition awarded him a medal. Not knowing its construction or principles, we are unable to describe them, but shall be happy to do so on receiving the necessary information.

A Subscriber (Salop).—Great quantities of bismuth are manufactured in Saxony. A metal broker would be able to give the market price.

A Reader (Leeds).—Since the introduction of ultramarine, the consumption of cobalt has much decreased. Last year the mines of Modum, in Norway, could not meet with a purchaser, and the mortgages were obliged to work the property on their own account. Large quantities are found in Hungary and Bohemia. In Saxony, the smelter weaves his apron before, in contradistinction to the miner, who wears it behind; it is technically styled the *arch hefer*.

W. L.—Tomlinson's "Encyclopaedia of Useful Arts, Manufactures, and Engineering," is published in a convenient size monthly, by Virtus, London and New York, by whom, on application, every information can be obtained, or through any bookseller. The proportional compasses are composed of two bars, pointed at each end, thus forming two pairs of legs; they have a slot up the centre, acting on a moveable stud as a centre, and thus, by a graduated index, one pair of the legs can be made to bear any proportion to the other which may be desired. At any point of the index, when once fixed, one pair of legs will, by any length of opening, bear a like proportion to the other; they are, therefore, highly convenient for enlarging or diminishing maps, plans, &c.

Is MINING A PROFESSION?—We have received from a correspondent ("J. T.", Bristol) some extended remarks on this now important subject, which, although exceedingly apposite and true in themselves, their length precludes their insertion. The following summary will convey a tolerably full idea of the writer's views. Nothing calls forth the immediate indignation of a practical man more than the above question, as he naturally feels it an encroachment regarding the requirements he has attained by the most persevering and deep study in geological science, combined with the advantages of unweary exertion in practical observations. Now that capital is so unsparsely brought forward, it should be the constant care of the miner not to endanger the dignity of the profession by bringing before the public mineral properties which have not been carefully inspected and approved by practical and professional men. To the want of due caution in this particular, doubtlessly, must be attributed much of the ill fame in which mining is held by the community at large. It is, however, gratifying to contemplate the success likely to accrue, if a fair and legitimate course of business be adopted. Proud England can boast, among her various unbound resources, as being the mother of mineral wealth, which, it will be admitted, contributed in no small degree to her present proud position; and the writer then recommends a bold support of one of her most admired branches under the present favourable auspices. Some instances are also given of unsuccessful former workings through want of geological experience, which, on being taken up by men of real practical knowledge, were rendered profitable, and where serious heavy losses have been averted by the timely interposition of the professor in the practical conduction of mines, particularly in the underground workings; and from the many valuable remarks on this interesting science to be noticed in the *Mining Journal*, the belief is encouraged that we are not far from acquiring the knowledge of some important facts in the chemical and geological arrangements of mineral deposits. Men of high standing, with a few truthful observations clearly given, may do more than whole columns of verbiage which cannot be appreciated; and if capitalists would attach themselves to men of known real worth, and endeavour to understand for themselves, they would find, to their great satisfaction, more frequent remunerative results.

We are indebted to our contemporary, the *Monmouthshire Merlin*, for an early copy of the "Judgment" in the cause Brown v. Monmouthshire Railway and Canal Company, which is published entire in that paper.

"Mallet" on the Mining Market and the Mining Exchange, will appear next week; also "Pioneer" on the Mines of Carnarvon.

*** * * We must impress upon our correspondents, the necessity of invariably furnishing us with their names and addresses—not that their communications should, consequently, be noticed, but as an earnest to us of their good faith.**

The Cost-Book System.

Having repeated applications for particulars respecting the Cost-book System, we have reprinted, as a pamphlet, the paper descriptive of its principles and practice, which appeared in the *Mining Journal*. Copies can be procured through any bookseller or newsman, or at our office, price 6d.

*** * * It is particularly requested that all communications may be addressed—**

To THE EDITOR,
Mining Journal Office,

26, FLEET-STREET, LONDON.

And Post-office orders made payable to Wm. Salmon Mansell, acting for the proprietor.

THE MINING JOURNAL
Railway and Commercial Gazette.

LONDON, NOVEMBER 22, 1851.

The *Mining Journal* is published at about Eleven o'clock on Saturday morning, at the office, 26, Fleet-street, and can be obtained, before Twelve, of all news agents, at the Royal Exchange, and other parts of London.

In our last week's issue of this Journal, we showed that when the right to mines and minerals under any description of inclosed lands exists distinct from the property in the surface, and is not compensated upon the inclosure, it remains, together with all necessary and all auxiliary easements, in the lord or owner of the soil—or, in other words, that the inclosure does not in such a case in any way affect or disturb the right to and property in the mines and minerals. The generality of the above rule is, however, very much limited under two conditions—namely, when the mines, &c., exist under a *regulated pasture*, which is a pasture stocked and depastured in common by the persons interested therein, in proportion to their respective rights, and when under allotments in *severity*. These conditions are established by the 97th section of the statute under discussion (8th and 9th Vic., c. 118), which empowers the valuer thereby appointed to direct, under certain circumstances, that the rights of the lord of the manor in and to all or any of the mines, minerals, stone, and other substrata under such part of the land as

shall be converted into and used as a *regulated pasture*, shall be reserved to him; and that all or any of the mines, minerals, stone, and other substrata under the residue to be divided and allotted in *severity*, shall become the property of the owners of the respective allotments, and that the allotments be adjusted accordingly. The section is as follows:

"By section 97th, it is provided and enacted, that in every case in which under the provisions therein contained part of the land subject to be inclosed under such Act shall be converted into and used as a *regulated pasture*, and the residue thereof shall be divided and allotted in *severity*, it shall be lawful for the valuer, having regard to the right of the lord of the manor as the same shall have been ascertained and declared by the provisional order of the commissioners, and with the consent of the lord of the manor, and a majority in value of the other persons interested in the lands proposed to be inclosed, to direct that the rights of the lord of the manor in and to all or any of the mines, minerals, stone, and other substrata, under such part of the land as shall be converted into and used as a *regulated pasture*, shall be reserved to the lord; and that all or any of the mines, minerals, stone, and other substrata under the residue to be divided and allotted in *severity*, shall become the property of the owners of the respective allotments, and that the allotments be adjusted accordingly."

So anxious indeed was the Legislature to vest in the lord of the manor his reserved right and property in the mines, &c., under regulated pastures, that although by the 116th section of the same statute the right to the soil of and in such *regulated pastures* is vested in those interested therein, in proportion to their respective shares, or aliquot parts as tenants in common, yet the reserved right of the lord of the manor to all or any of such mines, minerals, stones, and other substrata, is specially excepted to him from such general ownership of the soil. Thus—

"By section 116th, it is enacted that the right of soil of and in all land which shall be converted into regulated pastures shall, subject to the right of the lord of the manor to all or any of the mines, minerals, stone, and other substrata where the same shall be reserved to him under this Act, and to the other rights given or reserved by this Act, and the award in the matter of such inclosures to be vested in the persons who, under the directions and determinations of such award, shall be the owners of the stints or rights of pasture therein, in proportion to the shares, or aliquot parts, which such stints shall be thereby declared liable to of any rate under this Act as tenants in common."

We have seen that by section 97 the Legislature has also clearly expressed its intention—that the mines and minerals under allotments in *severity* shall become the property of the owners of the respective allotments, provided as declared by the 98th section, their right to the mines and minerals existed before the inclosure, together with the property in the surface, and was not compensated upon the inclosure, or was reserved by the valuer under the 97th section. With the above remarks we conclude our notice of the law of mines and minerals, in relation to the statute, 8th and 9th Victoria, c. 118.

In another column will be found a brief report of proceedings in the cause *Williams v. Marsden* and others, the Court having refused to grant a new trial. As the circumstances attendant the case are of infinite importance to the mining interest, we are induced to direct attention to those points which appear to us the most material, and which may be calculated to act as a caution to others similarly situated. The plaintiff (Mr. John Williams, of Lower Town, Gwernap) having taken up several sets, including the Old Ecton Mine, the New York Mine (the one in question), and other holdings, proceeded to the erection of an engine on a shaft bordering on the defendants' sett—the latter not being worked below the adit level, but which was rendered available for the purposes of drainage of plaintiff's mine to that point. It appears an agreement was entered into and signed between the parties to the effect that, in consideration of the engine so erected, being calculated to water the two sets, by making a communication from the one to the other, the defendants undertook to pay one-half of the working costs, while no provision was made that the same should only be payable when the power was rendered available, nor was it stipulated that the engine should be worked for joint interest, except at the option of the plaintiff. In fact, it was a blind bargain on the part of the defendants, who might cease to work their own mine, and yet be responsible for a moiety of the engine cost, which would in such case be applied only to the working of that plaintiff; a power moreover being vested in the latter to cease working the engine whenever he might deem proper, and thus drown the defendants' mine.

In the course of working, on part of the plaintiff, it appears that he had inadvertently (we will suppose) carried his workings beyond the prescribed limits of the sett, and had broken away some portions of ore ground. On this being ascertained, the defendants proceeded for damages, and which, in the end, were awarded at 80*l.*, the law costs being about double that sum. In consequence of this litigation, and a difference arising between plaintiff and defendants, the former claimed one-half of the engine cost, which was from 40*l.* to 50*l.* per month, the payment of which was refused on the part of the defendants, who denied that they were in any way benefited, the several workings in this mine being at and above the adit level. Hence the proceedings—and a verdict being given for 30*l.* damages, being the cost up to the month of January or February last, to avoid which, and on certain grounds submitted to the Court, the defendants prayed a new trial. This, it will be seen, has been refused by the Court, on the ground that the verdict was in strict accordance with the tenor of the agreement entered into. This being the state of the case, we submit that the defendants are liable for the payment of a moiety of cost of working the engine so long as the plaintiff may continue working the New York Mine, although defendants may abandon their sett, and be in no way benefitted; while the past expenditure, from date of proceedings up to the present date, and henceforward, must be met by defendants.

The case is, we admit, a hard one, as it is all on one side, and would, doubtless, meet with relief in a court of equity, while, in a court of common law, it is only to make a decree in accordance with the terms of agreement. The damages and costs must exceed 1000*l.* or 1200*l.*, while the subsequent accounts may be set down at 200*l.* at least, and this arising from want of legal acumen in drawing up the agreement, and want of proper understanding on the part of the plaintiff and defendants; the former, we are given to understand, holding no interest in the mine—his shares having become forfeited from non-payment of calls. The lesson, we trust, will not be lost sight of, inasmuch that, in cases of a similar nature, the lawyer should not only be consulted but held responsible for preparing so loose an agreement; while it will be a caution to the honest adventurer, whereby he may escape the trammels of the law, or the legal construction to be put on an instrument not carefully worded.

In the *Mining Journal* of the 1st Inst., we noticed a case tried at Newport, Monmouthshire, in which Mr. James Brown sought to recover of the Monmouthshire Railway and Canal Company the amount of damages which he had sustained by reason of defendants having refused to convey him from their station at Court-y-Bella to Ebbw Vale, after having given notice on the previous day to that effect. The Court, in delivering a most elaborate judgement, and citing numerous cases on the subject which met its views, said the counsel on behalf of the defendants contended—1. That the provisions of the company's recent Acts of Parliament, with respect to the conveyance of passengers, were not obligatory on them, but merely empowered them to adapt their railways to locomotive traffic.—2. That supposing the duty of conveying passengers along the line by locomotive or other moving power to be cast on the company, there had been no breach of such duty; inasmuch as the offer to convey the plaintiff from Aberbeeg in the tram drawn by horse-power, was a sufficient compliance with the provisions of the Act.—3. That the company having exhausted all their pecuniary means of improving their railways, were not answerable in damages to the plaintiff for the non-completion of any part of the works required by the Act.—4. That the present action did not lie, because—1. The public Act, 7th and 8th Vic., c. 95, s. 17, had provided a different remedy; and—2. The plaintiff had sustained no particular injury, in any respect differing from that to the public at large. His Honour considered that if the complaining party had sustained no injury peculiar to himself, or different in its nature from that which all the Queen's subjects who would travel along this line of railway if completed sustain in consequence of the non-completion of the works required by this Act of Parliament, he had no redress by action. And it certainly appeared that there was nothing to distinguish the grievance which the plaintiff complained of from that which every person sustained whose business would take him along the road between that place and Ebbw Vale, and who would be desirous of availing himself of railway conveyance. It was quite clear that the plaintiff knew when he gave his notice of the 25th Sept., and when he applied for his

ticket, that the company could not afford him railway accommodation; and that his journey to Ebbw Vale was taken, and the expenses incurred, chiefly for the purpose of creating a particular damage on which to found an action against the company. The case was, therefore, clearly distinguishable from those cases cited, and in which it had been held that an action will lie; and unless this principle of law, which, according to Lord Coke, "is provided for avoiding multiplicity of suits, for if any one might have an action, all men might have the like," be any thing more than a barren maxim, he was of opinion that a person sustaining an injury, like that arising from the non-completion of this railway, which was common to all the public who may have business along the road, must do or suffer something more than the plaintiff had done or suffered, to convert the common and general grievance into a particular injury. He, therefore, thought that the plaintiff must be nonsuited; at the same time, he thought it right to observe that the question was a very proper one to raise in one of the superior courts, where, of course, the solution of it would be more satisfactory than there; and he had the satisfaction of knowing that the decision at which he had arrived did not prevent the plaintiff from resorting to one of such tribunals; whilst, on the other hand, if he had decided in his favour, he should have felt that the defendants had no means of bringing his judgment under review, however erroneous it might be.

At the Stannaries Court, Truro, on the 6th Inst., an important case was heard—JOEL ALLEN and others v. NOEL CLYME,—as regards Wheal Tremaine, in the parish of St. Ervan. Plaintiffs sought to recover 30*l.* 2*s.* for work done by them in April, May, and June last. JOEL ALLEN and three partners proved they were employed by the defendant at certain fixed wages, amounting to the sum claimed; it was at surface, and sundry witnesses were called to prove seeing them performing it—among the rest, the defendant, who admitted he was the resident captain on the mine, and the amount was due to the parties. On cross-examination, he said he was engaged by Mr. DYMOND, of London, about four years ago, who had paid him his wages; the mine, during that period, was idle two years;—when it was again re-worked, he was employed by Mr. WILLIAMS, under whom he acted, and was paid for six months. The mine remained again idle for 16 months: on resuming operations, he was directed by Mr. DYMOND to employ the plaintiff, he being engaged as captain. Mr. STOKES addressed the Court for the defence; he appeared for the real owners of the mining materials, who were exceedingly surprised at finding that labourers had been sent on the mine without their knowledge—claiming a lien on the materials. They knew nothing of DYMOND, who had, in reality, nothing to do with the mine, and was totally unconnected with the real owners of the materials. Mr. CHILCOTT replied, that the custom had always been for the working miner to look only to the resident agent for payment—that working men could never know the real adventurers. The petition had been served three months ago, and it was very extraordinary, if there were any *bond fide* adventurers, that they had not been called into Court to say so. There was nothing to prove the fact, and they might exist only in the advocate's imagination.

On Saturday last His Honour delivered judgment, admitting the defence was important; it was urged that DYMOND, being a trespasser on the mine, it was hard that the adventurers' machinery should not only be used by him, but be sold to pay wages under such trespass. The answer to which is, that it would be harder if miners, working on a hirer well known in this district, and knowing only their hirer, should fail to have their remedy if they do not know persons at a distance, out of the jurisdiction of the Court, and who have not appeared. The process of the Court in proceeding to sale was so cautious and so public, that it seemed impossible that any adventurers could unjustly be deprived of their property, or of the opportunity of making a defence in behalf of such property. If there were any adventurers in this mine they might have added themselves to the defence. They have not appeared, and plaintiffs, under the circumstances, may be allowed to assume that Mr. STOKES' clients do not legally or, perhaps, at all exist, except as represented by Mr. DYMOND. The decree, therefore, must be, that the sum proved (30*l.* 2*s.*, with costs) be paid.

Application was made for a new trial of the cause, "CLIFT v. F. PRYOR," fully noticed in last week's *Journal*; but the VICE-WARDEN considered that the case had received every possible attention; that the arguments had been comprehensive and ample; that the decision had been studiously left to the jury, who had paid the most marked attention to the evidence and facts submitted, and had cautiously arrived at their verdict, and in which he perfectly concurred. If he were to grant a new trial, he should be expressing doubt where he had none; and in effect be saying that in every case attracting attention, or of importance, there should be a new trial. He, therefore, refused the rule; because he thought the verdict was not against the preponderating weight of evidence.

It has long been an axiom, that a coal mine is more profitable than gold seeking; and much as has been said and written about the auriferous riches of California and Australia, we think circumstances are now transpiring which will tend to turn the attention of the thoughtful and the enterprising to the exploration of some of the yet untraversed mountains and valleys of our own islands, before they run the risk of a journey to, or an investment of capital in, places at the antipodes, where, to one who succeeds to any extent, hundreds have reaped, and more will reap, the fruits of their ignorance and folly in ruin, misery, and death. We would call the serious attention of our readers to a communication in another column under the signature of "Juvenis" (Cleveland), to some newly-discovered and valuable beds of iron ore in the north of Yorkshire—a seam from 10 to 17 ft.

render the *Book of Nature* a manual that may be appropriately placed in the hands of pupils in all institutions for the education of the young mind, and where the importance of a general knowledge of the natural and physical sciences is recognised. Founded on a scientific basis, composed with simplicity and clearness, and avoiding as far as practicable isolated facts, it presents a comprehensive view of all the principal branches of that knowledge on which it professes to enlighten. That this has been accomplished in the most satisfactory manner we bear our willing testimony; its plan is orderly, condensed, and comprehensive, the whole being illustrated by a large number of unusually well-executed wood diagrams—the language is simple and concise; as far as possible abstruse technicalities are avoided, and, where necessary, fully explained.

A pamphlet, entitled *Some Remarks on Mining Accidents*, by the Rev. S. PLANT, vicar of Weston-upon-Trent, Staffordshire, addressed as a letter to SMITH CHILD, Esq., M.P., has just been forwarded to us. The author states that his remarks were originally intended for publication in the newspaper press, but finding they had outgrown the limits necessary for that purpose, he gives them to the public in the present form. It commences by showing the very limited powers of the present inspection, whose existing authority is totally inadequate to provide a remedy, and their being able to obtain further powers will depend on the support and impetus they may receive from public opinion. The truth is, there are so many obstacles, in the shape of prejudices and private interest, that although the subject has been many years under the consideration of benevolent men, and the reports of committees of Parliament are most voluminous, there was the greatest difficulty in passing the Act of last year, in all its mild inoffensiveness. It proceeds to an examination into the causes of the numerous fatal accidents, commencing with imperfect ventilation and the DAVY lamps; and shows that the latter, although they have enabled much coal to be raised which might not otherwise have been brought into use, or must have been got at greater cost, by enabling men to work in an atmosphere more fully charged with carburetted hydrogen, have rendered adequate ventilation less essential, and placed men in greater risk from carelessness and accident; and the fact, as stated in the Report of the Committee of the House of Commons in 1835, is that since the introduction of the DAVY lamp accidents had rather increased than diminished. The nature of proper ventilation is described, and the uses of air-heads, doors, brattices, &c., entered into, with GURNEY's steam-jet, NASMYTH's fan, and other appliances, for insuring sufficient and regular ventilation. In considering this part of the subject, the author submits that it is not unreasonable, considering the vast amount of human life at stake, for the public to demand an Act which shall give an inspector power to fix in each case how great a current of air is sufficient to insure the safety of the mine; to require, under a penalty, that a satisfactory method of gauging the current be provided at all times accessible to him; and that this current be distributed in an effectual manner through the mine. If in any mine an explosion takes place, causing loss of life or bodily injury, and it be proved the inspector's requirements were not carried out, then the owner to be liable to a severe fine upon each life lost, or person injured, which fine shall be applied to the benefit of the sufferers or their families. Until some such legal enactment be made, Government cannot be considered to have discharged its duties as the *protector* of all classes and interests of the realm.

The writer then proceeds to accidents from falling down shafts, severely and laudably repudiates the practice of leaving old unused shafts entirely unprotected, as well as the insecure manner in which shafts in operation are left, and gives a record of numerous horrible accidents from these causes, which have, from time to time, appeared in our Journal.

We are glad to be able to state that the Government has at length filled up an office which ought to have been done months since, and which delay, we have no hesitation in saying, if not culpable and in known opposition to the public wish, is, at least, unaccountable, while there are always so many men of real high practical attainments who would accept such office, and execute its duties efficiently. Sir GEORGE GREY has at length appointed HERBERT MACKWORTH, Esq., to be an inspector of coal mines, in the room of J. KENYON BLACKWELL, Esq., resigned. While expressing our satisfaction at the appointment, we do not for a moment imply that here they are to lay on their oars; on the contrary, the requirements of the subject, nor the public desire, will ever be met until a fully efficient number of inspectors are appointed, and a much more complete and rational Act of Inspection be carried through the Legislature.

The nineteenth century has most appropriately been termed the "age of iron," and it would appear from the ever changing scenes which are passing around us, that it is equally deserving of the title of "the age of gold." No sooner are we become somewhat reconciled to the truth of the wild Arabian Nights Tales, which reached us about four years since from California, and to her pouring into the world's circulation some 10,000,000 annually of her auriferous treasures, than society is again startled by the announcement of the discovery of a new Pactolus, and inexhaustible mines of the precious metal, situated among the mountains and rivers of our own Colonial possessions. The latest accounts from Australia prove that the statements hitherto made of the discovery of gold, and the quantities obtained had not been exaggerated, and that to repeat the four year old tale of California would but too truly represent the condition of the colony. We trust, however, whatever may be the present impression, that the results of the Australian discovery will be very different to those of the American State; there, with no settled population, and no Government to contend with, the loafers, the rowdies, the scamps and scum of the old and new worlds had full scope for the action of their wild spirit of enterprise to revel in—as ready for possessing themselves of the property of another by robbery and murder, as by searching for the precious metals themselves. In New Holland, however, different circumstances exist, and we hope, and doubt not, that very different results will follow. With large populations, embued with that love of peace and order so indigenous to the British nation, and a Government willing and able to support the true interests and secure the safety of the community, we think there is little to fear.

Much has been said of the convict population, and the outrages to which their habits and conduct may lead them; but we think that question must now be virtually settled, and that no Government, in opposition to the loudly-expressed opinions and wishes of the whole population, will send any more criminals, more particularly to a land abounding in the precious metals, the obtainment of which would be their aim, under circumstances however desperate, and at any risk. It certainly becomes a grave question, both with the Home and Colonial Governments, what are the safest measures to pursue under the circumstances, and whether some addition to their present military staff might not be made with advantage.

Under present excitement, and while numerous gold mining schemes are being submitted for public attraction, a pamphlet, published by Mr. WYLD, Charing-cross, has most opportunely appeared, which should be perused by every one who, by laying out a little capital in gold mining shares, expects to become a second Cresus, without exertion of body or mind. It is entitled, "Notes on the distribution of Gold throughout the World, including Australia, California, and Russia;" and is embellished with four maps, clearly executed,—1, of the world; 2, Australia; 3, Bathurst to Sydney; and 4, California, on each of which the gold deposits are plainly marked in yellow colour. It is dedicated "To Sir R. I. Murchison, F.R.S., the President of the Geological Society; the man who, using the light of science, foretold to the English world the existence of gold in the Australian continent several years before the discovery of the precious metal was made public; who, living, has seen the realisation of his prediction; and who, throughout a life of scientific usefulness, has been ever ready to put forth his hand to uphold those who laboured in the task of popular instruction, and of scientific advancement." In it the gold question, generally, is most ably discussed, from the earliest periods when men bartered with each other; the effects of its discovery, and use as a circulating medium on society, through the times of VASCO DE GAMA and COLUMBUS, up to its obsolescence in Russia, California, and Australia. The geology of gold is well described, according to all known facts, and the best practical and scientific opinions; the different systems of working carefully detailed; the gold monetary system considered; and the deposits in the several parts of the world described, illustrated by the above-mentioned maps. It is published at a very low charge, and comprising an epitome of all that history

has given us, and modern science elucidated, is within reach of, and should be read by, all who feel an interest in the subject.

There is one other circumstance to notice, on which we shall remark but briefly—the fact that nearly three-quarters of a million sterling are advertised to be raised for Californian and Australian gold-quartz rock-crushing companies. Before embarking capital in such enterprises, we should (and we make the observation without the least wish to disparage legitimate undertakings) consider the position of the parties forming the company which we are about to join, the validity of the lease, whether from Col. Frémont or others; and even if valid, what will be the effect of the competition of thousands of independent seekers at little expense, over an extent of open territory of 1000 square miles, producing gold in the Sierra Nevada alone. It is a well known fact, that companies, properly carried out, can do here what individuals cannot attempt, but the question may be very different in the wild, unpopulated, and as yet but ill-regulated state of California. We shall, most probably, return to the subject in our next.

ISTHMUS OF PANAMA.

Our readers will infer, from our former remarks, with what pleasure we are now able to announce that the long-contemplated and great project for uniting the Atlantic with the Pacific Oceans is about to be realised.

We are free to allow that a mixed communication by railway and canal, as heretofore proposed, and we believe in part carried out at present, is a step in the right direction; but yet it must be admitted that such a mode of transit, with all its incidental inconvenience and risk, falls far short of the requirements of the great traffic passing around Cape Horn. We have good authority for stating that nearly 30,000,000 tons of shipping annually pass around the Horn. This fact of itself would obviously justify an outlay of many millions sterling to cut down and remove the barrier of the Isthmus of Panama, which at present necessitates the circuitous course around South America.

We believe that this work, great and important as it is, could not be in better hands than those of the eminent parties who are now engaged with it; and it must be almost unnecessary to add that we shall always be happy to afford them all the aid in our power.

ON THE SEPARATION OF THE OXIDES FROM ALLOYS OF COPPER AND ZINC.

M. Rivot, director of the laboratory of the School of Mines in Paris, and M. Bouquet, of the Assay Office, having been instructed to make a great number of analyses of samples of brass, were led to make experiments on the separation of copper and zinc, and they have proved that sulphuretted hydrogen cannot give a satisfactory result. When operating in a liquor not very acid, sulphuretted hydrogen precipitates almost all the zinc at the same time as the copper in the state of sulphurates; when very acid, there is always a considerable portion of sulphuret of zinc carried away with the sulphuret of copper. From these experiments it resulted that if the precipitates given by sulphuretted hydrogen are dissolved in nitro-hydrochloric acid, and the copper precipitated in the state of oxide by potassa in the liquor previously rendered ammoniacal, very accurate data are arrived at as regards copper. The process was a modification of that of M. Vauquelin; brass is dissolved in nitric acid, precipitating the solution when cold in a close vessel by potassa, saturating the filtered liquor with sulphuric acid, and precipitating the zinc by carbonate of potassa. This gives good results, but M. M. Rivot and Bouquet found it advantageous to precipitate the oxide of copper by means of potassa, only after having rendered the liquor ammoniacal. The oxide of copper then does not contain oxide of zinc or potassa, whereas in operating on a non-ammoniacal liquor it is almost impossible to remove all the potassa from the oxide of copper by even prolonged washing in boiling water. The precipitation of the oxide of copper by potassa in an ammoniacal liquor takes place very well at a temperature varying from 15° to 17° Fahr.; if a higher temperature be employed it attaches powerfully to the sides of the vessel, and it is necessary to re-dissolve in an acid, and precipitate *de novo*. It is also necessary to operate only on dilute liquors, and not to employ too great an excess of potassa; in concentrated liquors, or with an excess of alkali, the oxide of copper obtained retains with tenacity a larger proportion of potassa.

ON THE SLATE ROCKS OF CORNWALL AND DEVON.

BY PROF. SEDGWICK, F.G.S.

In a paper read at the Geological Society, on the 5th inst., the author, referring to observations previously made, particularly in 1836, by Sir R. I. Murchison and himself, explained that the sedimentary rocks of Cornwall and Devon are arranged as follows:—

1. The culmiferous rocks or culm measures (equivalent to the coal grits of South Wales), occupying the west of Devonshire, form a trough, the parallel sides of which extend from Hartland Point to beyond Bampton, on the north; and from Leamouth to the south of Exeter on the south, interrupted, however, in this southern edge by the great granitic mass of Dartmoor.

2. The calcareous slates of Barnstaple, and the sandstones of Charwood and Bogg Point, underlie the culm measures on the north, and are represented along the south edge of the culm-rocks by the limestone and fossiliferous slates of Petherwin, and, forming with the latter the "Barnstaple or Petherwin group" constitute the upper part of the "Devonian system." These appear to be the equivalents of the "carboniferous slates" of the south of Ireland.

3. The "Dartmouth group," or middle Devonian, appear on the north as the unfossiliferous slates and coarse grauwacke of Morte Bay, and on the south of the culm trough as the unfossiliferous slates of the Dartmouth district.

4. The oldest or "Plymouth group" of the Devonian series is well marked on the north by the limestone and sandstones of Linton, and the north coast, and on the south by the fossiliferous slate rocks of the "Liskeard group," and the limestones and sandstones of the Plymouth district. These rocks, although very greatly distorted by the extensive granitic slopes of Devon and Cornwall, exhibit considerable symmetry in their arrangement with respect to each other and the granitic rocks, dipping from the protruding granite in a symmetrical form, and, where free from the disturbing influence of the latter, exhibiting an approximate parallelism of strike. The author next proceeded to describe a series of slate rocks to the south of the granitic mass north of St. Austell, and occupying Dodman Point and Nare Head. These rocks afford fossils of the Lower Silurian (Cambrian) age, as lately noticed by Sir R. I. Murchison. These strata, having a general southerly dip, and a strike north-north-east, south-west, appear to overlie the Devonian slates of Vergan. This position, however, the professor considers to be probably due to the disturbing influence of an axis of elevation parallel with the south coast, which has inverted these older rocks. The author concludes by observing, that probably the altered slates near the Lizard, and the metamorphic slates of Bolt Head might be regarded as indications of ancient strata formerly existing about the site of their promontories. Deposits of Silurian or Cambrian age appear to have had a limited extent only, as indicated by the local series referred to above. The three great groups of the Devonian series successively followed, and subsequently formed an elevated tract of land, on which grew the ancient flora, now represented by the fossil plants of the culm measures that repose on the Devonian rocks. After came a period during which the great gigantic axis was elevated, disturbing with its three protruding masses of St. Austell, Bodmin, and Dartmoor, the Devonian and culmiferous rocks along the southern edge of the latter. Contemporaneously with this, another axis elevated the corresponding rocks along the northern edge of the culm series. Lastly, we have indications of a third elevatory axis, probably coeval with the former two, ranging along the south coast of Devon and Cornwall, and previously noticed as being probably connected with the elevation and inversion of the Cambrian or older Silurian rocks of Dodman Point and Nare Head.

CUSTOM OBSERVED AGAINST DEFAULTERS RESIDING OUT OF THE JURISDICTION OF THE ROYAL STANNARY COURT.—The purser of West United Hills Mine having obtained a rule for the sale of the shares belonging to the Rev. J. Heathcoat Brooks, residing at Chipping Norton, for arrears of call 1012.5s., service of decree was affixed at the principal shaft of the mine, and the defendant being non-resident in the county, notice thereof being sent to his address by post was allowed.

COPPER.—The *Lake Superior Journal* of the 29th Oct. says that the propeller *Peninsula* left Sault Ste. Marie that morning with one of the largest freights of copper ever shipped from the country, having from the Cliff Mine 80 tons, in masses and barrels; from the Minnesota, 50 tons, mostly in masses; from the Peninsula, 1 ton, one mass, and two barrels. Included in the large lot of masses from the Cliff Mine were six enormous pieces, one weighing 6070 lbs., and five weighing over 5000 lbs. each. The largest piece weighed 990 lbs., more than any mass ever before sent out of the country.

A great crowd was attracted, on Sunday evening last, to the Great Western Station at Cheltenham, to see the arrival, as announced by placard, of "the newly invented powerful locomotive propeller, the *Hercules*," which was to work without the aid of steam. This, we need scarcely say, was a hoax.

Original Correspondence.

MINERAL WEALTH OF NORTH YORKSHIRE.

SIR.—It may not be generally known to your readers that whilst a far-off country, called California, excited, for a certain time, the most extraordinary sensation we ever remember to have heard, for its valuable mineral productions, and now our ears are again startled with the news that "shepherds are leaving their flocks, and seamen with landsmen are hastening" at the very antipodes to a gold-producing district, our countrymen are silent and asleep to the capabilities of Old England—justly entitled to our first consideration. We may, therefore, state that North Yorkshire, so long looked upon as a place only celebrated for its wild moorland localities, with here and there a few beautiful sequestered valleys, is now about to come out in prominence, as also one of the richest and most valuable portions of this empire. We mean not in gold abstractedly, but, what is of more worth in national importance, hard stern iron, or rather stone, for its production.

A seam of ore, varying from 10 to 17 feet thick, and in some places even thicker, has been discovered along the line of hills on the lower chain, commencing at Loftus Alum Works, extending to Eston Nab Beacon, where it is now worked by a firm at Middlesbrough-on-Tees, who are daily raising 800 tons and upwards from open quarry at the outcrop, to carry to their works at Witton and Middlesbrough to smelt, and also for the supply of the very extensive works at Shotley Bridge, which latter company are also about to open a mine, from whence and Loftus (the property of our noble proprietor) they intend to raise 1000 tons daily. The second chain of hills, having the intervening valleys of Dale House, Shelton, and Gisbrough, extending to the celebrated Roseberry Topping (the Ben Nevis of Cleveland), has also been found to have the same bed or seam of ore—the chief difficulty of arriving at which is about to be obviated by the construction of a branch rail to the Gibrothorpe Valley from the "Middlesbrough" and Redcar, and now surveyed to lay before Parliament, which we are of opinion will produce results and developments of the utmost importance. An analysis has been made of the ore at the Polytechnic Institution, London, which has produced near 40 per cent. of metal, and where our friends in town may see a specimen any day—the subject of iron and metals forming a course of lectures delivering at that scientific institute. It is not our province to state in figures what such can realise as an investment to parties who understand the trade; but we are informed that on the opposite side of the River Tees there is coal and lime cheap, and in great abundance, with the harbour of Hartlepool for shipment, and Middlesbrough on the Yorkshire side—both first-class ports for accommodation.

It can only have arisen from the knowledge of such facts not being fully known that influential capitalists have not, with the wonted energy of Englishmen, come to the spot where it is evident to calculating parties we have talked with that in no place can iron be made so cheap. At the present time we are writing, the rattling wheels are taking from the Cleveland Mines the rough ore by rail above 50 miles to the furnaces. Surely, if any profit is made where an expense so large is incurred by carriage, what must result if worked where none such or only little is incurred, and every facility is granted by nature which can possibly be. To the reflecting and enterprising we must leave it, feeling assured that as the Great Architect of the universe has made nothing in vain, so now man will, when it is apparent such useful material is in existence, by his labour and industry, combined with scientific knowledge, bring out that which is clearly intended for his use.—*JUVENIS: Cleveland, Nov. 18.*

IRON PYRITES.

SIR.—I observe in your last Journal that Mr. Mitchell says, in a report on some minerals, that "Iron pyrites is employed in considerable quantities in the manufacture of sulphuric acid (the oil of vitriol of commerce); but there is well-founded objection to the use of acid made in this manner, for it always contains arsenic, a metal found in nearly all iron pyrites. In this sample, however, there is not a trace of that poisonous substance; therefore, the objection to the use of pyrites in the manufacture of sulphuric acid falls to the ground when a mineral free from arsenic can be obtained." I admit, with Mr. Mitchell, that the pyrites in question is good, and well adapted for making sulphuric acid, but having operated on some thousands of tons of iron pyrites in the making of that acid, I can affirm that the absence of arsenic is by no means rare, as I have found hundreds of tons quite free from it, which were obtained in Cornwall and some other counties.

Though I never could get the beach mud (which is picked up generally on the south coast of England) to exceed 46 per cent. sulphur, and, therefore, inferior to some of the iron pyrites that is raised in many of the Cornish copper mines; yet I much prefer it to the foreign sulphur of commerce, for two reasons,—one being, that it is not contaminated with arsenic, and, in fact, is very similar in composition to the pyrites in question, containing, by my analyses, sulphur, iron, silicic, and carbon, but the last is not invariably present; the other reason being, that it is much more economic than Sicilian sulphur.—*W. BIRKMYRE: Nov. 18.*

COPPER SMELTING.

SIR.—Some well meaning friends have been kind enough to give a very fair exposition of my views upon some matters to which I attach great importance, and to which I wish to draw public attention. The plan for obtaining copper in "Pyrites" second letter, in the *Mining Journal* of the 8th inst., is such as I proposed to certain parties a few months ago, but which I have since greatly improved upon. The principle is certainly similar to that patented by Mr. Bankhart, but I think my *modus operandi* will be found to differ most essentially from that in practice at the Red Jacket Works, near Neath. I have, for the last three months, been nearly blind and incapable of active operations, which has afforded me leisure for the exercise of my ingenuity, and my studies have been almost exclusively devoted to copper. I have devised some new modes for applying gases, and for obtaining and treating solutions on a large scale. By the adoption of these, I shall complete a most perfect and beautiful process. The wet, or acid mode of operation, is decidedly the true principle for obtaining the entire quantity and purest quality of copper from sulphurites. I hope soon to satisfy your correspondent, Mr. Prideaux, on this point.

T. H. LEIGHTON.

IMPROVEMENTS IN THE MANUFACTURE OF GAS.

SIR.—I felt surprised at reading in your Journal of the 1st inst., the article on the Manufacture of Gas, in which it is stated that Messrs. Barlow and Gore have invented a new system of making gas, and superseded all other parties who have patented gas upon the same system, including Donovan, Manby, White, and Webster. Now, as I happen to be one of the superseded, I trust I may be allowed to answer this bold assertion of Messrs. Barlow and Gore. It is stated that I have failed in the attempt to produce 15,000 cubic feet of good gas from one ton of Cannel coal—this is not true; and I beg to hand you the following names of places where I have had the pleasure of putting my apparatus down, and which is now at work daily, and is open to the inspection of any party who may think well to call and inspect it, and where any information which may be required will be given, both as to the quantity and quality of the gas:—

1. Messrs. Turner and Fogg, elastic webb manufacturers, Hill-street, Leicester, where one of my apparatus, for 300 lights, is at work.
2. Messrs. Law and Bell's foundry, Charles-street, Leicester, where there is also one for 300 lights.
3. The Monastery, Charwood Forest, Leicestershire, one for 200 lights.
4. Mr. Alderman Salomons, M.P. for Greenwich, Broom-hill, Tunbridge Wells, Kent, one for 100 lights.
5. Radcliffe College, Leicestershire, one for 400 lights.
6. Messrs. Towgood's, St. Neot's, Huntingdonshire, two sets, for 400 lights each.
7. Messrs. Towgood's, Sawston, near Cambridge, two sets, for 400 lights each.
8. Malling Station, Ireland, one for 100 lights.
9. The Union, Leicester, where we are finding them gas at 2s. 3d. per 1000 cubic feet one for 500 lights.
10. The gas-works, St. Neot's, which I have altered to my principle.
11. The gas-works at Rugby, which I am now altering.

At the Rugby Gas-Works, I have been making a series of experiments, the results of which show that, while from 4½ cwt. of coals they were producing 1800 feet of gas upon the ordinary principle, with my patent process, on the 6th inst., from 4½ cwt. of coals, I produced 3000 cubic feet of gas; on the 7th inst., 3110 feet, and on the 8th inst., 3150 feet—making an average of 14,500 cubic feet per ton from common Derbyshire coal, commonly known as Staveley coal?

I am quite prepared to give a guarantee to any gas company in England, or any other place, to produce 15,000 cubic feet of good gas from one ton of Cannel coal; and I avail myself of this opportunity of stating, that I am also quite prepared to alter the works of any gas company on these

terms:—"That if I do not produce the quantity above-mentioned, I will forfeit all the alterations and expenses which I may put the company to."

This does not look much like a failure; and before my name is made use of again in your Journal, I shall thank the writer to prove in what place my patent has been a failure, and where I have put works down with which the parties are not satisfied at any of the gas-works, work-houses, or manufactoryes referred to. I am convinced that the parties in charge of the gas apparatus will do me the justice to answer any letter they may address them.—J. WEBSTER, Gas Engineer: *Leicester, Nov. 18.*

DR. LARDNER AND ATLANTIC STEAM NAVIGATION.

SIR.—In a new edition of Dr. Lardner's work upon the Steam-Engine, which has just appeared, a recapitulation is given of the leading points in the controversy on the subject of Atlantic Steam Navigation. As the question is thus brought once more before the public—as most erroneous impressions are prevalent respecting it, and as I am able, from my personal knowledge, to state the real facts of the case, I trust you will afford me sufficient space in your columns to set the matter correctly before the public. Most persons suppose that Dr. Lardner declared the passage of the Atlantic by a steam-vessel to be a physical impossibility; and if an example be needed to show how far the achievements of physical science may outrun the anticipations of scientific authorities, Dr. Lardner's supposed declaration is usually cited as a case in point. It happens, however, that Dr. Lardner entertained no such opinion as that usually imputed to him, but, in fact, maintained the very opposite. About the time of the meeting of the British Association in Bristol, in 1837, being then engaged in superintending the construction of the largest steam-vessels of that day—the *Don Juan*, the *Braganza*, and the *Tagus*, belonging to the Peninsular Company, I was applied to by Dr. Lardner to ascertain my views respecting the prospects of Atlantic steam navigation, and I then went with him, with some care, into the question.

It was, of course, obvious to us both, that for a steam-vessel to cross the Atlantic was perfectly possible. In fact, at least two steam-vessels, the *Savannah* and the *Curaçoa*, had crossed it already; and although it was doubtful whether any steam-vessel of that day could carry coal enough to maintain the full power of the steam during the whole voyage, it was clear, nevertheless, that any sea-worthy steamer could accomplish the voyage by adopting one of two alternatives—she might either proceed under full steam as far as her coals would last, and then conclude the voyage under sail; or she might pass through the whole distance under partial steam, working the engines with only a portion of their power, as had been repeatedly done by the *Medea* and other steam-vessels when sailing with the fleet. It was obvious to every one indeed, that the capability of a steam-vessel to carry coal for an Atlantic voyage hinged upon the amount of power put into her; or, in other words, it was a question of the proportion of power to tonnage—so that, by making the hull of the vessel very large, and the engines relatively small, a sufficient capacity for coal to enable the engines to be worked throughout the voyage would certainly be obtained. This abstract question, however, was not the one which engaged the attention of the public, or upon which it was necessary for Dr. Lardner to deliver any opinion. But three distinct projects were at that time before the public, proposing to connect England with New York by steam-vessels of large tonnage and power; and the problem presented for solution was, whether these undertakings—unassisted as they were by a Government grant, and relying wholly upon the returns from goods and passengers—would probably be successful. Dr. Lardner's opinion was that they would not, and in that opinion I concurred. No one was able to answer Dr. Lardner's arguments, but they were drowned by clamour, and he was represented as having given utterance to an absurdity, in order that the force of his reasonings might be the more effectually concealed.

For the moment this expedient succeeded. The three schemes, which had London, Liverpool, and Bristol as their European termini, were, contrary to Dr. Lardner's recommendation, established and tried. The result is exhibited in the following list, which shows the eventual fate of the vessels employed:—

<i>Sirius</i>	Withdrawn.	<i>British Queen</i>	Sold.
<i>Royal William</i>	Withdrawn.	<i>President</i>	Lost.
<i>Great Liverpool</i>	Sold.	<i>Great Western</i>	Sold.
<i>United States</i>	Sold.	<i>Great Britain</i>	Sold.

In fact, the whole of the enterprises, condemned by Dr. Lardner, have miscarried, and have been attended with loss and disappointment to all concerned.

The Cunard and American lines of packets being supported by large Government subventions, of course, do not come under the conditions Dr. Lardner had to consider, which were those of an enterprise subsisting only on its own returns; nor had his prognostications any reference to the class of auxiliary screw-vessels now plying across the Atlantic—that class of vessels having been unknown in 1836. His remarks had reference exclusively to paddle-vessels with full power; and since the whole of the vessels of that class, except those supported by extraneous aid, have been driven from the field, and since the Cunard line, notwithstanding the great ability with which it is conducted, requires a Government contribution of 145,000*l.* a-year to enable it to be carried on, it appears certain that the doctrines Dr. Lardner promulgated in 1836 and 1837 are irrefragable still, notwithstanding the improvements which have since taken place in steam navigation. One by one the schemes he condemned have exploded: no one would now think of reconstructing them. Who, then, shall say that his anticipations have not been borne out by the result?

London, Nov. 15. JOHN BOURNE, C.E.

THE ELEMENTS OF NATURE.

SIR.—I regret that Mr. Pridoux should still decline to discuss the subject under consideration we had even fairly made a beginning. In my letter of the 7th Oct. last, I asked for an admission that there are only two figures, *per se*, known to the human mind. If this be not a fact, then my argument must necessarily end; but, if otherwise, we have safe and sure ground on which to proceed. However, as none of your able and scientific correspondents feel disposed to enter into a little fair discussion on the subject—and that upon mutually agreed data and conditions, but not antagonistically, for I abominably hate carping and cavilling on all subjects, more especially scientific ones, nor to "oppose or expose," in wantonness or ignorant vanity, as Mr. Pridoux, with good sense, candour, and courtesy, states in his note in last week's Journal, but to *draw out and expand* arguments and illustrations—why I suppose the business must stand over to some future day. Permit me, however, to make a few more remarks on the subject, in the hope and expectation that it is possible to so far connect heaven and earth, as it were, as to satisfy every rational mind that the supernatural things I have designated *spirit* and *matter* may be rendered manifest to human sense through the results of their combination.

In your last Journal you gave an extract, with diagrams, from Mr. Evan Hopkins's forthcoming work on *Terrestrial Magnetism*. Now, to reduce my abstract "Elements of Nature" into physical facts, nothing better could possibly have been contrived for that purpose than the diagrams alluded to. Here we have a view of the *passive element* of Nature—the basis of all earthly things, *MATTER*, surrounded and penetrated by the *active, property-giving, and creative element, SPIRIT*, whose directed action upon matter produced all earthly things in the beginning, and it will continue to create, destroy, and re-create, or transmute, all such things, until time shall be no more! By means of this wonderful action of *spirit* upon *matter*, (Mr. Hopkins has termed those elements "geology and magnetism"—a difference I consider to be in name only), we may, without violence to reason, which is science, arrive at pretty correct notions as to the formation and transmutation of metals, and the production of chemical compounds of every possible kind, as stated in my introductory paper of the 20th August last. Here is also the true origin of metalliferous veins and their contents clearly explained, as well as the cause of the *northern* and *southern auroras*, which have been so long a puzzle to philosophers and astronomers.

I do not profess to be much acquainted with the science of electricity, but have been told that the action of the electric fluid in a vacuum (such as man can obtain) will produce flashes of light, of various colours and intensities. Now, by fair reasoning, we may conclude the *auroras* to be produced by the action of the same fluid, or *spirit*, on the confines of the earth's atmosphere, where, from the variety of the air, we have the same condition for its action as in a vacuum obtained by human means! And, moreover, we are told, from high authority, maugre the sneers of sceptics and cavillers—that in the beginning "The Spirit of God moved upon the face of the waters, and God said, Let there be light, and there was light." To me this is conclusive that *electricity* is the *spirit* or active element, which, at the origin of earthly things, *moved and acted upon the face outside, or superficies of the dark, void, formless, powerless, passive, and consequently property-less, element we conventionally call MATTER, the basis,*

as before observed, of all earthly things; the result of its first action being *light*, and its unceasing, but scientifically directed, action upon more matter resulted in the terrene wonders and miracles constantly, in a manner, before our doubting minds. Now, from this *first action* of spirit upon matter, if we descend *atomically* we shall have—1. Caloric (perhaps *pyrogen* may be a better term; this, however, I will leave for Mr. Lake, or some other electrician to settle).—2. *Airs*.—3. *Visible fluids*.—4. *Solids*, so that *platinum*, the most dense body at present known, may be considered a combination of matter *plus*, and spirit *minus*; and *light*, the first result produced (and which, from necessity, ought to have been so), and the lightest of natural things, a union of spirit *plus*, and matter *minus*. But it is time to bring this letter to a conclusion, or it may encroach too far on the columns of your excellent and independent Journal; I will, therefore, do so by most unequivocally assuring that Mr. Hopkins's view of the formation and filling of mineral veins is both practically and theoretically correct, and his philosophy, on the whole, perfectly rational and unimpeachable. Nantyglo, Nov. 4. S. B. ROGERS.

P. S.—With respect to the weak and antiquated remarks of Mr. Norris F. Davey, in last week's Journal, together with the double-headed doubt with which he commences his extract from Sir Isaac Newton (to whom I am as willing as Mr. Davey to concede all due honours), I shall, not being, as before remarked, partial to "carping or cavilling," simply leave them to the "wild winds of heaven," and the following very apposite quotation from Mr. Evan Hopkins's able letter on "The Newtonian Physical Laws of the Orbits Questioned," and which immediately precedes Mr. Davey's communication above alluded to—viz.: "There is nothing that betrays the weakness of an argument more than the use of improper epithets; and when these are accompanied by questions totally irrelevant to the subject, in a loose style, they may be considered as unworthy of notice, and offensive to the readers."

MACHINES OF THE EXHIBITION.

SIR.—I never accepted the promised wonders of the Great Exhibition in spreading peace and goodwill throughout the earth; there was, if not impiety, as much presumption as common sense in the delusion. I never believed that the dining of the Lord Mayor in Paris would seal in perpetuity the bonds of amity betwixt two nations; nor that the advent to our shores of some thousands of industrious foreigners, whose very works already proclaimed them lovers of peace and order, would cast soporific spell upon the passions of the millions that remained behind—in short, that the teeming cauldron of continental strife and politics would have one ember drawn from beneath it by the great show of the present year. Delusive excitement, and some faith in the greatness of the results, were perhaps absolutely necessary to effect so great a gathering. Some believed, and more, though unbelieving, joined the throng, that they might not be deserted in the rear. To the majority, the recollection of the excitement is all that remains to compensate great expenditure and much disappointment. As ultimate results were so problematical, it was the more imperative that immediate acts should be governed by the golden rule—"To do justly and to walk uprightly," looking to the end, not leaning for excuse on the Heathen adage of the oppressor and the sycophant—"De mortuis nil nisi bonum," but remembering the truer proverb of our own great poet, "The evil a man doth lives after him; The good is oft interred with his bones;"

so that when the great fact of the year had expired, its memory might endure with the fewest traces of shame or regret. No one will believe that even had omniscience and omnipresence been the gifts of those intrusted with the management and the awards that perfect satisfaction would have been the result; and, therefore, much more where human fallibility presided over such an unexampled mass of materials, distinguished often by the minutes shades of difference, mistakes and oversights were inevitable, and even less explicable acts—such as the rejection in Mr. Sim's case of the opinions of Sir David Brewster and Sir John Herschel—may have had sufficient exculpatory cause. But a more remarkable case has met my attention in the simplest and least numerous class of articles, in which of all others correct decisions were to have been expected and were demanded, because they affect a subject which has pre-eminently given this country its distinguished position among the nations. In the conduct of the department for steam machinery, it was confidently to be expected that all was fair—that "Samson had acquit himself like Samson," and the weighty importance of the subject would give an irresistible momentum in the path of justice.

Much as has been performed, it is, I believe, supposed by none that the application of steam in obtaining power has been carried to its ultimate perfection; on the contrary, the whole force of engineering talent has been constantly directed to supplying certain desiderata, and increasing attainable power by reducing to the minimum the weight and space of fuel and machinery. Had it been otherwise—had the acme by universal acknowledgement been gained, the clear course for the committees and juries would have been to award prizes solely for the best pieces of workmanship, because, when there was no room for novelty, it was impossible that a council medal could be granted on that ground; and it would be equally clear that the committee should discourage and reject all futile attempts, or models, pretending to a novelty which was impossible. It would have been a waste of the valuable steam generated in Hyde Park to supply it to nugatory pretenders, who merely did what had been already done, and a waste of space to admit models which, though very new, were useless, because every useful point had been before attained, and the construction of the steam-engine beatified in everlasting rest in the "highest heaven of invention."

But as this supreme felicity of design is not admitted to have been achieved by the body of engineers or engine-makers, and as they are not yet in the position of Alexander, to sit down and weep because there is nothing more to conquer, I purpose to call attention to some little improvements in this not yet perfected machine, which were sent, according to the spirit in which the building was designed, for the Exhibition, and the encouragement of such improvements, but which, by some mistake, was eminently discouraged, and not exhibited. When the general report is published, we may perhaps read the reasons for such a course; but as it is a case in which the public has suffered fully more than the inventor, it is fair to sketch out beforehand the nature of the facts which have to be explained, as an assistance to the explanation, giving the fullest amount of credit for the commercial talents of the chief manufacturers of steam-engines, and the excellence of the articles turned out of their establishments; and, further, if they require it for their philosophical appreciation of the principles which they manufacture into items of trade, there are, nevertheless, thousands of persons who employ steam-power for navigation, locomotion, or stationary purposes, who can thoroughly appreciate, as correctly as the maker, the practical duty of the machine, its defects and its requirements; and there are hundreds of workmen equally competent as their masters to understand every practical detail, and judge what is an improvement; and if it shall appear that either by ignorance, or inattention, or inattention, the makers of engines have deprived the users of engines of a great public opportunity of witnessing in operation a complete system of combinations, which supply all the desiderata which the users of engines throughout this century have been searching for, there remains a slur upon that department of the great show which demands every effort to wipe away; for if a prominent point in the future history of the improvements of our stupendous agent shall be that a most notorious step in advance was not appreciated, was discouraged—nay, was treated with studied injustice when brought up to the bar of nations, which is science, arrive at pretty correct notions as to the formation and transmutation of metals, and the production of chemical compounds of every possible kind, as stated in my introductory paper of the 20th August last. Here is also the true origin of metalliferous veins and their contents clearly explained, as well as the cause of the *northern* and *southern auroras*, which have been so long a puzzle to philosophers and astronomers.

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with proper appliances, than to determine the exact amount of carbonic acid generated, and nitrogen evolved, by half-a-dozen men, placed in an air-tight chamber; and similar results might be obtained from horses and other animals, placed in a properly-constructed box, which would answer every purpose—information that is indispensably requisite as the groundwork for a proper system of ventilation, and should unquestionably be afforded by the Government.

Much iron is made with charcoal, and wood constitutes the principal article of fuel on the continent, but to what extent is not known. On this point also, with very little trouble, much valuable statistical information might be collected—it being an unquestionable fact that, whilst we are liberating annually a vast amount of carbon to the atmosphere, and which finds its way to the soil, by the progressive increase in the human family, we are gradually making inroads on the forests. That the demand for coal will continue on the increase until some other power than steam be obtained, is beyond a doubt, but at least, as rational beings, we should investigate the consequence, in order to determine whether some remedy cannot be devised for the evils we may create. FRANKLIN COXWORTHY, Canterbury-place, Lambeth-road, Nov. 17. Author of *Electrical Condition*.

AGUA FRIA MINING COMPANY.

Among the gold mining speculations which are now before the public, this company deserves especial notice, inasmuch as it is the only English association whose works have been surveyed, and on which a detailed report has been issued. The property is situated on the river of the same name, about 85 miles from the city of Stockton, to which place vessels of 400 tons can navigate, and between which and San Francisco there is almost daily communication by steam-packets. The property was surveyed and examined in October, 1850, by an eminent American mining engineer, Capt. W. A. Jackson, of Virginia. Openings were made by a cross-cut of sufficient depth to test the size of the vein and richness of the ore; the vein appears to be of nearly uniform thickness, of 3½ to 4½ feet, and its direction a few points to the north of east, the inclination of the vein being about 45°. Of the ore some specimens were transmitted to the United States Mint in January, 1851, and the report of the assays then made showed that 277 lbs. of ore produced 173 ozs. of gold, of the value of upwards of 650*l.*

In the month of May some of the quartz was brought over here and submitted to the inspection of the direction of the Bank of England; three different specimens, weighing in the aggregate 24 lbs. 2 ozs. 2 dwts., produced gold to the value of 272*l.* 2s. 7d. The ore has likewise been assayed by Messrs. Johnson and Matthey, and, according to their report a weight of rock of 5 lbs. 4 ozs. 18 dwts., yielded 1 lb. 4 ozs. 12 dwts. of gold, or a value of 63*l.* 1s. 10d., less the expenses of separation. Another analysis of the quality of quartz rock taken from the Agua Fria Mine has been analysed by Professor Ansted; according to his investigations of three specimens, of the aggregate weight of 42 lbs. 14 ozs. 138 grs., the estimated weight of gold was 24 ozs. 300 grs., of the estimated value of 90*l.* 17s. 3d.: this gives the mean specific gravity of the three lumps, 26.925, and the mean value about 42*l.* 6d. for every pound weight of ore, and therefore a value of 4750*l.* for the ton. The contents of the vein running through the property, which is about 600 feet in length, and crops out on a hill, rising about 150 to 200 feet above the level of the Agua Fria Creek, is estimated at about 18,000 tons of ore to the water level only—how far it may descend below is not at present known.

The lease we have seen, signed by Col. Frémont, as well as the specimens of quartz, all more or less impregnated with the precious metal; these bear indubitable evidence of having been broken from the rock, and there is no doubt in the same locality large masses exist of the same average quality.

We have received a long, and, we may add, very able letter, from our correspondent, "Argus," in reply to Mr. Murchison, in last week's Journal. We have no wish to provoke a correspondence between these two gentlemen—whose only object, that of promoting legitimate mining, is the same, though they may each imagine a different course should be pursued to attain it. Mr. Murchison, and other of our correspondents, are wrong in supposing that the efforts of "Argus" are directed to the discouragement of all new adventures; he wishes only that capital should be expended in such as are deemed probable, by competent judges, of proving productive, and making ample returns for the risk and necessary outlay. With his experience of the melancholy results of rash speculation in former periods, "Argus" is, perhaps, somewhat "over-cautious," lest such calamity should again befall, and act discouragingly on the efforts of those engaged in the prosecution of legitimate mining undertakings.

We subjoin the concluding portion of the letter of "Argus":—"I am opposed to the idea that 800,000*l.* per annum additional capital could be advantageously employed in mining for copper, tin, and lead. I maintain that any such yearly sum would inevitably ruin most of those now in operation, throw down the price of metal, increase the charge for mining materials and labour, and in two years (if not sooner) defeat its own object, by a general panic and abandonment of the mines; an excess of produce must depreciate its marketable value. I have been connected with those three metals long enough to have seen them frequently suffer from such cause. Greater and more frequent would it be if a larger capital were employed, and the mines yielding a considerably augmented quantity of ore. The present price is neither too high nor the demand so brisk as we could wish at this moment; it will be well if we do not retrograde. The price has fluctuated much within the last seven years, as it has in every other seven during my mining pilgrimage, and I have witnessed the abandonment of many mines in consequence, seen them put to work again by a fresh party, and again abandoned in consequence of the lowness of price obtainable for their produce. Some are now working again, but several have never recovered the first shock. I, therefore, repeat that, should success bring, say only 100, out of the 317 mines on your second list, into such a productive state as the weekly reports would intimate them capable of (though they bring at present so little), down must go others that are struggling even to keep themselves afloat."

CONDIE'S STEAM-HAMMER.—It may be remembered by our readers that about 1847 we noticed a new steam-hammer, patented by Mr. Condie, of the Govan Iron-Works, which was in reality Nasmyth's hammer reversed—a moving cylinder on a fixed piston being the hammer, instead of the latter being connected to the lower portion of the piston-rod working in a fixed cylinder. We understand that some improvements have recently been made in several details, such as the standards being cast with high gothic openings, to give the men free access to the anvil, and in some trifling alterations in the valve gearing. A new hammer has been ordered by T. Michiels and Co., of Eschweiler Aue, near Aix-la-Chapelle. It stands 14 ft. high, with a hammer 30 cwt., and a 3 ft. 4 in. stroke; it is for forging anchors, shafts, and other heavy portions of machinery. Mr.

WEST WHEAL JEWEL MINING ASSOCIATION.—

At a SPECIAL GENERAL MEETING of shareholders, held on Monday, the 17th November, at the offices of the Company, Old Broad-street, City,

JAMES HERRON, Esq., in the chair.

Mr. Nicholson (the Secretary) read the notice convening the meeting from the *Mining Journal*—it being called for the purpose of rescinding the resolution passed at the meeting held on the 3d of June last, and to propose, in lieu thereof, to raise the required capital upon the existing shares—when it was

Proposed by Mr. Mackay, and seconded by Mr. J. Y. Watson.—

That the resolution passed at a Special General Meeting, held on the 3d day of June last, for raising additional capital, by the issue of preference shares, shall be rescinded. Carried unanimously.

Proposed by Mr. Wilson, and seconded by Mr. Torkington.—

That the Directors be, and are hereby, requested to call a Special General Meeting of shareholders forthwith, for the purpose of dissolving the Company.—Carried unanimously.

The usual thanks being voted to the Chairman, the meeting separated.

WEST CALLINGTON MINES.—At the FIRST GENERAL MEETING of the shareholders in this Mine, held at Gregory's Hotel, Cheap-side, on Wednesday last, the 19th instant,

STEPHEN BROAD, Esq., in the chair.

The Chairman, after having read the notice convening the meeting, called on Mr. Gregory to read the prospectus and the report of A. Dean, the engineer to the Company. It was then moved.—That the same be allowed, and entered accordingly.

Moved by Mr. Dare, and seconded by Mr. Lynch;

Resolved.—That the Secretary's report be received.

Moved by Mr. Molynex, and seconded by Mr. R. W. Dare;

Resolved.—That the balance-sheet be received and adopted.

Resolved.—That the committee be re-elected, and that Messrs. McLean, Lynch, France, and Dr. Sergeant, be added to the number.

Resolved.—That Mr. Manuel's appointment as secretary be confirmed.

Resolved.—That the rules now read be adopted.

Resolved.—That the best thanks of the meeting be given to the Chairman, for his able conduct in the chair.

R. C. MANUEL, Secretary.

26, Austinfriars, Nov. 19, 1851.

EXMOOR ELIZA MINE.—At a MEETING of shareholders in the above mine, held at the Queen's Head Inn, Tavistock, on Tuesday, Oct. 28,

JOSEPH EDGCUMBE, Esq., in the chair.

A statement of accounts was produced, which exhibited a balance against the Company, when all calls are paid, of £20.

Resolved.—That all shares on which the calls remain unpaid be now forfeited to the Company. The Purser to give notice that if the calls are paid to him within 14 days from the date of the circular accompanying these resolutions, the restoration of such shares will be considered at the next general meeting.

The reports of the two inspectors, together with that of Capt. Moore, having been read attentively considered, it was

Resolved.—That they be printed and circulated among the shareholders, and that a sufficient call be proposed at the next general meeting, for the purpose of carrying out with spirit the recommendations therein contained.

Resolved.—That the 60 unappropriated shares out of 1024 be offered for sale to the public. Application to be made to the purser, at Tavistock, or to Philip Hare and Co., 5, Marl-lane, London.

Resolved.—That the purser give notice in his circular convening the next general meeting that all shares on which there shall be any arrear of calls whatever will then be forfeited.

Resolved.—That an efficient pitman be appointed at a salary of £2 per month, in addition to his pay for ordinary labour.

Resolved.—That the services of Captain Moore be considered at the next general meeting, with a view to an increase of salary.

Resolved.—That the appointment of Mr. W. A. Palmer as purser, in room of Mr. Chant, be confirmed, at a salary of three guineas per month.

JOSEPH EDGCUMBE, Chairman.

Resolved.—That the best thanks of the meeting be given to the chairman for his services this day.

EAST MARIPOSA GOLD QUARTZ MINING COMPANY, CALIFORNIA.

PROVISIONALLY REGISTERED, PURSUANT TO THE 7 AND 8 VIC., CAP. 110.

Capital £150,000, in shares of £1 each.

Payable on allotment, and the Company's Deed will protect the shareholders from any further call or liability.

DIRECTORS.

PIERCE SOMERSET BUTLER, Esq., M.P.

WILLIAM DUNBAR, Esq.

NICHOLAS VAL. MAHER, Esq., M.P.

ROBERT ANDREW RIDDELL, Esq.

AUDITORS.

To be appointed by the shareholders at the first general meeting.

STANDING COUNSEL.

Henry Cory, Esq., New-square, Lincoln's Inn.

William Llewellyn Terry, Esq., Middle Temple,

BANKERS.

The London and County Bank.

BROKERS.

Liverpool—Messrs. Henry Davies and Co.

John Sebright May, Esq.

London—Messrs. Barff and Pint

Hull—Messrs. T. W. Flint and Co.

York—Henry Hall, Esq.

Bristol—J. E. Thomas, Esq.

Wales—Messrs. Mewburn and Blakey.

Paris—M. Edgar Aime.

RESIDENT AGENT IN CALIFORNIA—Matthew Clarke, Esq., C.E., Mariposa City.

SOLICITOR—John Thomas Moss, Esq., 12, Gray's Inn-square, London.

SECRETARY pro tem.—George Cole, Esq.

OFFICES.—No. 3, LOTHBURY, LONDON.

This company has been formed for the purpose of working a most valuable tract of land on the eastern branch of the Mariposa river, which has been already sufficiently explored to warrant the directors in bringing the undertaking before the public without further delay, although the working operations will not be commenced until the receipt of further advices from the company's resident agent. The rich character of this district is now so well known that it appears needless to encumber this prospectus by describing it; and the directors will not attempt to give an estimate of the amount of profit expected to be realized, inasmuch as any statement of that nature must of necessity be purely conjectural, and, therefore, only calculated to mislead the public. At the same time, the directors of this company confidently believe that it will be found second to none of the enterprises which have been entered into with the same object in view.

For the protection of the shareholders this company has been registered under the Joint-Stock Company's Act, and the directors of this company take this opportunity of remarking that the value of the security afforded by registration—where the shares are, as in this case, paid up on allotment—would appear to be scarcely appreciated by the public, judging from the numerous companies attempting to obtain favour by professing to work under the Cost-book system; but the directors cannot recommend the shareholders of this company to work a mine in a foreign country on the Cost-book Principle, in consequence of the very grave doubts that exist both as to its legality and practicability. The promoters of this company have, through their legal adviser, sought the opinion of the Registrar-General of Joint-Stock Companies, on this subject, as will appear by the following correspondence:

12, Gray's Inn-square, Holborn, London, November 11.

DEAR SIR.—Will you kindly favour me with your opinion as to whether a company can be legally formed in this country for working a mine in California on the Cost-book System, or whether it must be registered under the 7 and 8 Vic., cap. 110? Your early answer will oblige.

Yours faithfully, JOHN THOMAS MOSS.

F. WHITMARSH, Esq., Registrar of Joint-Stock Companies, Serjeant's Inn, Fleet-st.

[REPLY.]

I am of opinion that the company must be registered. F. WHITMARSH, Registrar.

The Deed of Settlement will secure the subscribers from the possibility of any further calls or liabilities whatever, after the payment of the capital sum of £1 per share, which will be invested in the names of trustees, until required for working.

Applications for shares may be made in the accompanying form, and addressed to the secretary or brokers of the company, but no notice will be taken of any applications which do not contain references of respectability.

TRURO TIN SMELTING COMPANY.

Capital £25,000, in 10,000 paid-up shares of £2 10s. each.

TO BE CONDUCTED ON THE "COST-BOOK" PRINCIPLE.

Further call can be made, and certificates will be issued to secure the shareholders against any liabilities.

BOARD OF MANAGEMENT.

JAMES ALEXANDER DOUGLAS, Esq., Russell-square, Chairman.

JOSEPH DUNNING, Esq., Drayton Grove, Old Brompton

Captain T. FARIS, Lawn Villa, South Lambeth

JOSEPH GIBBS, Esq., C.E., Fentonville

EDWARD HOARE, Esq., Hothfield, Maidstone, Kent

MARTIN STUTLEY, Esq., Cambridge-Terrace, Regent's-park

MATTHEW FRENCH WAGSTAFFE, Esq., Walcot-place, West Lambeth

AUDITOR—JOSEPH BUDWORTH SHARP, Esq., Gibson-square, Islington.

LONDON BANKERS—The Commercial Bank of London, Lombard-street.

SOLICITOR—T. J. Mawe, Esq., No. 4, New Bridge-street, Blackfriars.

METALLURGIST AND MANAGER OF WORKS IN TRURO—Mr. Samuel Moyle, Bosvigo.

This COMPANY IS ESTABLISHED FOR THE PURPOSE OF SMELTING TIN ORES—thus yielding large returns, when conducted, as this will be, with all the advantages of modern scientific knowledge, ample capital, and economical management.

A Smelting Company, based on such principles, presents advantages of a peculiar and almost exclusive character. Proposals for public undertakings are generally supported in their origin by views of advantage mainly speculative, resting upon vague and unproved estimates, whether as to cost or returns, and resulting frequently in disappointment and loss. Smelting operations are, however, more certain—the cost and value of the raw material, the ore, is accurately known by the experienced assayer; every item of expense, in its conversion into blocks, ingots, or bars, is matter of well-defined and correct computation; and the current price of the manufactured article is a subject of little mystery.

Arrangements have been already made for commencing operations without delay. A large part of the most complete and best-situated Tin Smelting Works in the country, in the erection of which several thousand pounds have been expended, having been secured at very advantageous terms. These works are most eligibly situated in the town of Truro, and in the centre of the great tin district of Cornwall, and are alike convenient for land and water carriage.

For shares, and any further information, application may be made at the Temporary Office of the Company, No. 16, Pinner's Hall, Old Broad-street; or to the several shareholders in the principal towns of the United Kingdom.

TO THE COMMITTEE OF THE TRURO TIN SMELTING COMPANY.

Gentlemen—I beg to apply for shares in your Company, and on your consent will pay, or so much of it as you may accede to, I agree to pay, the sum of £10. per share to the Bankers of the Company, immediately on receiving a notice to that effect, in accordance with the rates of your prospectus.

1851. Name..... Address..... Reference.....

CREEVELEA COAL AND PEAT CHARCOAL IRON COMPANY.—ON THE COST-BOOK PRINCIPLE.

Capital £30,000, in shares of £1 each—all paid.

The Smelting-Works are now in progress of erection. The Assays of the Ores and the Estimates of the cost of making Charcoal Iron, &c., hold out a speedy prospect of large returns.

Applications for prospectuses and shares may be made to Mr. John Hulse, 15, Finch-lane; and the offices of the Company, 38, Parliament-street, Westminster.

TEMPLELYNE MINING COMPANY, COUNTY WICKLOW.

PROVISIONALLY REGISTERED UNDER 7 AND 8 VIC., CAP. 107.

The above SULPHUR AND COPPER MINE is situate near the village of REDCROSS, within about two miles of the sea, on the fee-simple estate of Wentworth Brock, Esq., who leases to the Company the royalties of 100 acres of the lands of TEMPLELYNE for 40 years, at a royalty rent of £1 10s., and grants a right of search over 5000 acres, all situated in the neighbourhood of the now working mines, and containing, in numerous places, the most promising indications of copper and sulphur, with abundance of rich iron ore on the surface.

The capital of the Company consists of £10,000, in 5000 shares, of £2 each, with power to increase their number.

Parties desirous of taking shares in the above concern will please apply to J. H. Dunne, Esq., solicitor for the promoters, 59, Angler-street, Dublin.

BISHOPSTONE SILVER-LEAD MINES, GLAMORGANSHIRE, SOUTH WALES.

In 2000 shares.—Enlargement of capital by the issue of reserved shares.

These MINES are in full OPERATION, having been started by a limited proprietary, who hold 1200 shares, on each of which £4 has been paid—300 are free shares; the issue of the remainder having been reserved until the present time.

The committee, acting upon the advice of Evan Hopkins, Esq., C.E., and Capt. Matthew Francis, who have inspected the mines, are now prosecuting the works with the utmost vigour; and as additional capital will probably be required, have determined to issue the 500 reserved shares to respectable parties, on the payment of £1 per share, and a like payment every two months, until £4 be paid, so as to place all the shares in the same position.

Prospectuses, with full particular, copies of the reports of Evan Hopkins, Esq., and Capt. Matthew Francis, together with a register of the present proprietors, may be had on application to J. B. Balcombe, Esq., stock and sharebroker, No. 19, Royal Exchange, London.

PROSPECTUS OF THE MINE.

The following WORKINGS have been done:

1. The whole sett—a mile long—costeamed and 15 miles opened.

2. An exploring adit driven north-east 150 fathoms, opening a lead lode and copper lode; a shaft sunk near the latter, 40 fathoms deep, and cross-cut extended at the 20 and 30, exploring the lode and opening bunches of rich black ore. This lode is very promising, and, with an intermediate lode, will be ultimately worked from the central lodes, and will form a valuable adjunct thereto.

3. An exploring adit from the north-west corner of the sett, to unwater and prove six copper and tin lodes, passing through the table land on the hill—one of which is the famous Great St. Martin's lode. These lodes are situated within a compass of 90 fathoms, and are intersected by a caunter lode, 5 feet wide, and well impregnated with copper ore.

No. 1 has been opened at a depth of 25 fathoms, and contains a very rich gossan, with spar, mundic, and spots of copper, is nearly 2 feet wide, and as promising a lode as could be wished. The other five lodes will be cut at from 30 to 38 fathoms deep. The adit has been extended 180 fathoms, and the next lode is 14 fathoms a-head. Several rich bunches of black and grey ore, and one copper lode, have been passed through.—This feature of the mine is in itself of great value.

4. An exploring adit from the north, with levels about 100 fathoms, opening three large tin lodes, and a tin caunter—one of these is the celebrated Downright, or Old Polgoth lode.

5. An engine-shaft, 35 fathoms deep, sunk between the Great Downright lode and the north lodes—cross-cuts extended at the 25 and 35, and levels driven on the Downright lode, opening some valuable bunches of tin. The winze between the 25 and 35 is worth £15 per fathom—the average produce being 64 cwt. per 100 sacks. The west ends are now worth £10 and £14 per fathom.

6. A new 30-inch cylinder engine, 40 fathoms of 11-inch pumps, a 20 fathom 18-inch plunger, a 10 fathom 18-inch drawing lift, and various other materials, have been supplied, while calls equal to £7168 have been paid—leaving a trifling balance due to the purser.

PROSPECTS OF THE MINE.

The following FACTS demand attention:

1. The mine has been economically worked by two gentlemen out of their private capital, and, therefore, kept free from the injurious influence of jobbing speculators.

THE MINING SHARE LIST.

Shares.	Mines.	Paid.	Dividends per Share Declared.	Last Paid.	Last Price.	Present Price.	Paid.	Last Price.	Present Price.	
5120 Alfred Consols (copper), Phillack	£2 3	£1 19 to 1st Oct.	£0 6 0 Oct.	121	14	15	2500 Rhosyddoi and Bacheddon (lead), Wales	104	15	
1245 Allt-y-Crib (silver-lead), Tal-y-bont, Wales	—	6 7 to Oct.	6 0 0	91 1	6 8 9	4948 Rix Hill (tin), Tavistock	1	1	174 18 10	
1624 Baleswidden (tin), St. Just	1 1 2	3 2 to Oct.	6 7 to Oct.	18	—	5000 Rocks and Treverbyn (tin), St. Austell	44	—	—	
4000 Bedford United (copper), Tavistock, Devon	9 1	3 0 to Oct.	6 4 to Oct.	77	72 7 7	2048 Runnaford Coombe (tin)	3	24	—	
5000 Black Craig (lead), Kirkcudbrightshire	5	2 6 to Nov. 1851	6 2 6 to Nov.	42	4	1024 Sidney Gedolphin (copper), Breage	41	—	14	
64 Boscawell Downs (tin), St. Just	—	750 0 to May, 1849	6 2 6 to Nov.	100	—	10000 Silver Valley & W. Brothers (silver-lead)	1	1	—	
100 Botallack (tin and copper), St. Just	182 1	440 0 to 5th April	5 0 to May	215	215	1024 Sourton Consols	2	34	—	
1000 Bryntall, Llanidloes, Montgomeryshire	28	0 8 to end June	6 5 to June	14	14 15	2000 South of Scotland	14	—	14	
1000 Callington (lead and copper), Callington, Cornwall	29	6 0 to Sept., 1847	—	5	—	1024 South Friendship Wh. Ann (copper & tin)	30	32	—	
4000 Calstock United (copper)	28	0 5 to Oct., 1851	6 0 to Oct.	6	—	1024 South Speed (copper and tin), Uny Lelant	15	30	—	
1000 Carn Brea (copper and tin), Illogan	15	206 0 to Sept., 1851	2 0 to Sept.	95	—	1024 South Tamar (silver-lead), Beer Ferris	14	4	—	
128 Comford (copper), Gwennap, Cornwall	70	206 0 to Sept., 1851	2 0 to Sept.	95	—	1024 South Wheal Tamar (lead), near Liskeard	354	4	15 2	
256 Condurrow (copper and tin), Camborne, Cornwall	20	20	18 0 to Oct., 1851	2 0 to Oct.	20	20	10000 South Wales Mining Company (lead)	15	2	—
128 Cwmyntwith (lead), Cardiganshire	60	—	18 0 to Oct., 1851	2 0 to Oct.	105	105 110	1024 South Wheal Josiah (copper), Calstock	2	1	—
1024 Devon Great Consols (copper), Tavistock	1	214 10 to Sept.	5 0 to Sept.	280	285	2048 Speare Moor (copper), St. Just	30	40	—	
128 Dolcoath (copper and tin), Camborne	252	855 14 to 1847	—	28	—	1024 St. Agnes Beacon (tin and copper)	21s	24	—	
128 East Pool (tin and copper), Pool, Illogan, Cornwall	24 1	233 0 to 1843	—	112 1	110	1024 St. Auby and Grylls (copper and tin)	3	—	—	
94 East Wheal Croft (copper), Illogan, Cornwall	125	242 10	—	150	—	12000 St. Edder (copper and lead) St. Ender	1	14	—	
128 East Wheal Rose (silver-lead), Newlyn	50	2227 10 to 5th Sept.	12 10 to Sept.	425	—	999 St. Minver Consols (silver-lead)	1	9	—	
494 Fowey Consols (copper), Tywardreath	40	—	35 per cent. to June	10 per cent. & year	5	—	687 Tavy Consols (copper), near Tavistock	9	—	—
2750 General Mining Company for Ireland (copper)	1 1	—	35 per cent. to June	10 per cent. & year	5	—	1024 Temple Consols (tin & copper), Cornwall	1	—	—
100 Goginan (lead), Cardiganshire, Wales	5	440 0	6 8 to January	200	—	1204 Tokenbury (copper), St. Ives, Liskeard	11	10	—	
96 Great Consols (copper), Gwennap, Cornwall	1000	355 6 8 to January	0 2 to Sept.	3	—	1024 Tregarne (tin and copper), Camborne	24	4	—	
109 Great Polgoon (tin), St. Austell	3	6 2 to Sept.	5 0 to Aug.	200	—	1024 Trelawne (copper), St. Erth	14	5	—	
1024 Great Work (tin), Germoe	100	112 0 to Aug.	0 2 to Sept.	3	—	1024 Tremar (copper), Liskeard	34	—	—	
1024 Horodfoot (lead), near Liskeard, Cornwall	8 1	0 7 to Aug.	0 2 6 to Aug.	42	—	2048 Tremance (copper), Helston	6	—	—	
1000 Holmbois (lead and copper), Callington	24	25 0 to Feb., 1844	Feb., 1844	124	—	1024 Trenant (lime quarries)	213	24	—	
786 Kirkcudbrightshire (lead), Kirkcudbright	9 1	0 5 to Sept.	0 5 in Sept.	42	4 44	512 Tretrehey (copper), St. Clear	124	44	4 5	
1000 Lewis (tin and copper), St. Erth	17	2 0 to 1st Aug.	0 10 to Aug.	14	—	512 Treville (lead), Lewannick	43	5	—	
150 Levant (copper and tin), St. Just	24	1032 0 to 5th Sept.	2 0 to Sept.	140	—	2048 Trevylan (tin and copper)	23	24	—	
100 Lisburne (lead), Cardiganshire, Wales	75	640 0 to 1st Aug.	0 4 to July 1	700	—	604 Trowan Consols (tin), Towednack	7	9	—	
5000 Low's Patent Copper Smelting Company	9	1 0 to 6 July	0 4 to July 1	10	—	1024 Trumpet Consols (tin), near Helston	95	100	—	
2000 Mining Company of Ireland (copper, lead, and coal)	7	7 10 6 to Feb., 1847	7 p. c. p. annum	54	54 51	4000 Tyn-w-Worgold (slate), near Carnarvon	4	4	—	
200 North Pool (copper and tin), Pool	22	225 0 to 1st Nov.	7 10 to Nov.	200	—	500 Tynw-hayle (copper), Illogan & St. Agnes	60	22	—	
140 North Roskear (copper), Camborne	10	231 0 to ditto	5 0 to Nov.	180	—	1024 United Mines (copper and tin), Tavistock	124	10	10 12	
6000 North Wheal Bassett (copper and tin), Illogan	—	1 1 to 5th April	10	8	2000 Westar Consols (copper), Philack	94	9	9		
128 Par Consols (copper), St. Blazey	552	374 0	—	650	—	1024 West Bassett (copper), Illogan	9	8	—	
1160 Perran St. George (copper and tin), Perranzabuloe	211	15 to June	0 10 to 4th June	49	35	1024 West Beach (tin), St. Austell	29	64	92	
800 Phoenix (copper and tin), Linkinhorne	30	10 0 to March 5	5 0 to March	240	—	2000 West Callington, copper	1	14	—	
560 Providence Mines (tin), Uny Lelant	204	18 4 to 6 Aug.	0 15 to Aug.	25	—	256 West Damself (copper), Gwennap	52	80	77 2	
2000 South Caradon (copper), St. Cleer	24	255 0 to July	2 10 to July	120	—	1024 West Ding-Dong (tin), Sancreed	1	2	—	
256 South Tolgus (copper), Redruth, Cornwall	18	30 0 to 5th Oct.	3 0 to Oct.	145	150	1024 West Downs (copper and tin), Whitchurch	24	2	—	
248 South Wheal Frances (copper), Illogan	80	107 5 to Nov.	6 0 to Nov.	175	—	512 West Fowey Con. (tin & cop.), St. Blazey	40	60	—	
1024 Speare Consols (tin), St. Ives, Cornwall	14	3 10 to Sept.	0 2 6 to Sept.	94	11	1024 West Gogham (silver-lead), Cardiganshire	14	3	—	
94 St. Ives Consols (tin), St. Ives	80	859 0 to Aug.	4 0 to Aug.	155	—	12 1024 West Pat Consols (copper), St. Blazey	10	10	—	
1000 Stray Park and Camborne Vale (copper), Cornwall	15	11 10	—	1024 West Pentire (copper and lead), Padstow	4	4	—			
9500 Tamar Consols (silver-lead), Bodmin	4	2 11 to July, 1849	—	1024 West Phoenix, Linkinhorne	7	6	—			
6000 Tincroft (copper and tin), near Pool, Illogan	7	5 6 to Sept.	—	1024 West Polgoth (tin), St. Ewe & St. Mewan	1	—	—			
512 Trehane (silver-lead), Menheniot	4	14 7 6 to Nov.	6 10 to Nov.	74	64	200 West Seton (copper), Camborne	71	100	—	
3000 Treleigh Consols (copper), Redruth	6	1 3 to Oct., 1847	0 5 Oct. 1847	32	24	256 West Sharp Tor (copper) Linkinhorne	22	49	—	
95 Tresavean (copper), Gwennap, Cornwall	20	4680 12 to 1848	—	204 West St. Ives	100	—	—			
120 Trehelian (copper), Gwennap, Cornwall	5	402 10 to 5th April	—	1024 West Trethelan (copper), Gwennap	15	10	—			
120 Trevisey and Barrell (copper), Gwennap	130	246 5 to Oct.	6 10 to Oct.	210	205	500 West Wheal Alfred (copper) Hayle	14	12	—	
300 United Mines (copper), Gwennap	80	2 10 to Sept.	2 10 to Sept.	75	—	512 West Wheal Frances (copper), Illogan	9	12	—	
1024 Wellington (copper and tin), Perranzabuloe	65	2 2 6	0 5 to March	2	34 4	4000 West Wheal Friendship (copper), Devon	14	—	—	
256 West Caradon (copper), Liskeard	20	165 5 to Nov.	2 10 to Nov.	100 ex div	3715 West Wheal Jewel (tin and copper)	12	12	—		
512 West Providence (tin), St. Erth	10	10 0 to Nov.	5 0 to Nov.	1024 West Wheal Rose, lead	2	24	—			
256 Wheat Bassett (copper), Illogan	101	255 0 to 3d Oct.	10 0 to 3d Oct.	377	380	1024 West Wheal Russell, Tavistock	—	—	—	
256 Wheat Brewer (copper), Gwennap, Cornwall	2	5 0	—	74 74	1024 West Wheal Sheba	104	—	—		
124 Wheat Buller (copper), Redruth	5	109 0 to 1st Oct.	12 10 to Oct.	550	—	500 West Wheal Towan (copper), Illogan	21	11	—	
126 Wheat Castile and Boswelles (tin & copper)	5	—	20	—	1024 West Wheal Treasury (copper), Gwinnar	8	44	—		
5000 Wheat Golden Consols (silver-lead), Perranzabuloe	3	1 0 to July	9 5 to July	91 10	—	1024 West Wheal Virgin (tin), Sancreed	2	12	—	
430 Wheat Lovel (tin), Helston	33	10 0 to 7th Nov.	2 0 to Nov.	30	32 1	1024 Weston (lead), Cherbury, Shropshire	14	—	—	
112 Wheat Margaret (tin), Uny Lelant	79	187 0 to Aug.	5 0 to Aug.	150	140	1024 West Wheal Adam (lead), Christow, Exeter	13	16	—	
512 Wheat Mary Ann (lead), Menheniot	54	21 5 to 21st Aug.	3 0 to Aug.	524	49 50	1000 Wheat Angel (copper), Illogan	6	5	—	
40 Wheat Owles, St. Just, Cornwall	200	200 27 10 to Augst	2 10 to Aug.	80 85	85	1024 West Wheal Arthur (silver-lead), Perranzabuloe	17	49	—	
198 When Seto. (tin and copper), Camborne, Cornwall	107	199 10 to 5th Oct.	5 0 to Oct.	206	—	1024 West Wheal Augusta (tin), St. Just	1	2	—	
520 When Trewhawny (silver-lead), Liskeard, Cornwall	31	26 10	2 0 to May	38	38 37	1024 West Wheal Baf (tin), St. Just	54	—	—	
1024 When Tromayne (tin and cop.), Gwinear, Cornwall	94	6 18 to Oct.	0 15 to Oct.	25	25	1024 West				